154
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MENTAL GYMNASTICS.

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MENTAL GYMNASTICS,

—OR—

LESSONS ON MEMORY,

—BY—

ADAM MILLER, M. D.

AUTHOR OF

Life in Other Worlds; Plain Talk to the Sick; Mistakes of Doctors; Laconography, etc.

FIFTH EDITION.

CHICAGO:
1887.

INSTRUCTIONS.

After reading the first chapter, commence the study of the system on p. 21, and make yourself especially familiar with the letters representing numbers. Your memory will be strengthened with the first effort to recollect the relation between letters and figures. The 22d and 23d pages will explain the phonetic sounds that correspond with the letters that stand for numbers.

When familiar with the second chapter commence the study of the 100 words on pp. 24 and 25, and, with a little practice, you will soon be able to tell the numbers on hearing the words. Then go through VIIth and VIIIth chapters in the same way; keep a pencil and paper at hand, write the numbers from the words, and this will soon make you familiar with the letters and their homo-phonetic sounds, which will invariably give you the correct numbers. As your memory gains strength in this direction it will become stronger in every respect, especially for retaining names and committing to memory anything you may wish to keep in your memory's storehouse. The improvement may be slow at first, but by persevering effort you will most assuredly reap the reward of your labor by obtaining a renewed vigor of body and mind.

THE AUTHOR.

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154
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WILSON

PREFACE.

The author of this work does not claim to have originated an entirely new system for the cultivation of the memory. But he does claim to have simplified some of the old and complex systems contained in books now out of print; or in large and expensive volumes, not in the reach of those most interested in this subject.

Several small works have been published, based on the writings of Prof. Francis Fauvel-Gourand, and almost literally copied from his work without giving him credit for his arduous labors in this department of literature. Writers on this subject have left it in such obscurity, that persons, after purchasing the books, have laid them away as useless; because they could not understand the few brief and indefinite sketches called memory lessons.

The following pages have been arranged with new and original formulas by the author, more with a view to instruct the student in the noble faculty of memory, than to embellish the pages with fine language and obscure expressions.

We aim to make the subject as plain as possible, and to bring it within the comprehension of ordinary minds, so as to lead the student from the first simple lessons to the more complex without mental strain or effort, and by these mental gymnastics gradually to increase the strength of the memory. Instead of a

680040

severe strain it will be a mental recreation and amusement, and will prepare the mind for more arduous labors in other departments of study.

The object is to bring the subject within the reach of all classes, and to make the study interesting and profitable to all. There is no business in life, and no department in literature, where a well cultivated memory may not be turned to a good account.

Our capacity for any kind of business is increased in proportion as our memory is able to retain the details of our business.

These lessons are valuable to those who are studying any system of short-hand writing, and especially to the system called Laconography.

The author, now advanced beyond the ordinary years allotted to men in this life, has so cultivated his memory, that it is much stronger and more reliable than it was in the earlier years of his life, and all as the result of the training recommended in these pages. A well employed and active mind and a good memory well stored with useful knowledge are very important factors in human happiness.

While it does not bring back the years that have passed into the future, it lifts the mind above the wasting influences of time to a great extent, and often turns the gloomy winter of old age into the warmth and brightness of a summer's morning. It will help to smooth the wrinkles of a furrowed brow, and give intelligent expression to the eye that is growing dim with age. Try the process we recommend, and you will be satisfied. A. M.

CHAPTER I.

GENERAL REMARKS ON MEMORY.

Without memory our lives would be a dreary waste. The past would be a blank. The present a fretful and perplexing hour. Without a recollection of the past we would find very little encouragement in looking into the future. With the storehouse of our memories well filled with past events, many pleasant scenes of our past lives are brought in review before us. Even our sufferings and disappointments, when recollected in connection with the relief that may have come to us, and our deliverance from the apparent accidents and dangers to which we found ourselves exposed, all have a tendency to encourage us for the future. A recollection that the same or similar help may come to us in the future that sustained us in the past, will enable us to move forward in the struggles of life and trust in the same powers and forces for protection that sustained us in the past. All persons are endowed with this faculty, but some in a much higher degree than others. While there are natural endowments, and some have much better memories than others, it is undeniably true that by neglecting to exercise and cultivate this faculty it becomes enfeebled, while, on the other hand, by a proper course of train-

ing and a systematic exercise, the memory may be strengthened beyond the highest conceptions of those who have not made suitable and systematic efforts in this direction. The reason why many persons in advanced years complain of a feeble memory is an inattention to the common concerns of life, and a want of effort to treasure up the ordinary occurrences. The idea of many that because they have lived a certain number of years and arrived at an age where the mental faculties generally become enfeebled, has caused many to feel prematurely old, and a general loss of bodily and mental vigor follows a determination that it must be so, because it is the natural order of things. Many live and finally go down to their graves without being aware of the wonderful undeveloped powers they possessed, which, if they had been properly cultivated, would have contributed much to the support of the physical organism. There is such an intimate connection between the body and the mind that the lack of a proper treatment of the one will unfavorably affect the other.

We have gymnastics for physical culture and find, from experience and observation, that much is gained by a proper exercise in muscular development.

The memory is more susceptible to improvement by proper exercise and training, than the body. It is that which possesses the body, and is destined to survive its final dissolution and decay. The dweller in the house is of more importance than the house, so the mind of man, of which memory is a part, is of more importance than the body in which it dwells.

We talk of a mind well stored with knowledge, but we must not forget that memory is the store-keeper, and not only holds the key to the storehouse but arranges all the shelves and drawers and the different compartments for storing away the treasure accumulated by mental efforts. The mind selects and brings in the treasures, sometimes secures them by hardest toil and perilous efforts. The memory takes the treasures and stores them away on different and appropriate shelves, or in different drawers, and so marks them and the place where they are deposited, that they can be looked at any time when they are wanted.

What advantage would we have in the accumulation of wealth in silver and gold and diamonds and other precious things that make men rich, if we brought them home and handed them over to our steward or servant for safe keeping, and he put them where they never could be found? Suppose a man had millions on millions of treasures hidden in this way that he nor no one else could ever find; what advantage would they be to him? None. He might say I have lost them because I have not provided a proper place to store them away. I had no systematic arrangement in my treasure house, and now they are forever beyond my reach. In this way, from a want of a properly arranged house to store away the treasures of the mind, thousands of precious gems have been lost. We may deeply regret the loss, but this will not return to us the lost treasures. The only safe and proper way is to guard against these

losses in the future. Why have safes with various compartments been invented, with bars and bolts and locks, but to protect our goods from the hands of the thief and the robber, and also with a view to have them at our command at a moment's notice for our use?

The thief of time is watching us every hour to snatch away the accumulations of our mental toil. Much has been taken from us and laid in the grave of oblivion, but there are still vast outlying fields where we can gather more, and there are means provided to keep our gathered treasures securely.

But some one advanced in years may say, "I am too old to commence building a storehouse to treasure up my mental wares." You need not build a new house. The old one is good enough if you will only go to work and make some repairs; and when you begin this repairing process you will be surprised to find how easy the task will be. The sweeping out of a few dark corners of the old building will soon throw light over other parts.

The opening of a few windows will let in the light and make everything cheerful about the old homestead where the higher nature has long dwelt in gloom and sadness because the house was so much out of repair.

How sad it is to think that thousands of persons, when they arrive at the age of forty-five or fifty years, think that their time of improvement is past, and under this impression they neglect mental culture, and with this neglect the body soon becomes like a house uncared for.

We build the house we live in, that is, our inner and higher nature to such an extent controls organic matter so as to build up and nourish those parts most suited for mental activity, where no other abnormal or disturbing agencies interfere. This is especially true in reference to the growth and development of the brain, which is the seat of mental power. Proper training not only improves the mind but enlarges the dwelling place where the mind resides, acts, and operates.

The bright, expressive and speaking eye; the elevated forehead; the intelligent features; all indicate an intelligent working power or force superintending the material organization. This working force in the intellectual realm is under the control of the human will. If we determine that the mind shall lie dormant and the memory shall become feeble and inactive from a want of proper exercise, the inevitable results will follow. On the other hand, if we determine that the memory shall be retentive, and that the shelves in our memory's storehouse shall keep our deposited treasures, we have only to keep these shelves and drawers in good order, and have our deposits so marked and labeled as to find them at any time we may wish to use them. If we can not immediately find the key to unlock our repository and find the gems of thought, and all the beautiful and useful things of the past, we must tie a string to the treasure and keep the string in view, and when we get bewildered and confused we can follow up the string or wind it up into a ball, till it leads up to our

repository, and to the very drawer or shelf where our treasures may be found. If we have many shelves in memory's storehouse, and a great variety of different things stowed away, and these of different qualities, and require many strings by which to trace our way to our hidden treasures, we can very easily attach a mark or place a label on the end of each string, each separate mark directing up to the object we wish to find.

There are many plain and simple things that the mind may be placed on, and that the memory can retain, that may be well compared to a single thread, and by association of one thing with another, either from a striking similarity or dissimilarity, the thread may be followed by winding it into a ball or unwinding it from a ball.

As an illustration of following up the thread, we will commence with a white woolen thread: The wool leads us to the sheep. The sheep is an emblem of innocence; here we come into a large field, innocence, playfulness, pastures, flocks, woolen garments, cold weather, blankets, carpets and ornamented parlors. Or, if we wish to run in another direction, the thread will lead us to mutton, to a good dinner; to the dinner party; to the names of those present; to their conversation; and many other things we may wish to bring in review before us.

A silk thread will lead us to the silkworm, the mulberry tree, the manufacturing establishment, the silk dress, the beautiful lady that we saw wearing it, her sparkling eye, her wit, her diamonds, her language,

home, fortunes or misfortunes, all from the end of a small silk thread.

A cotton thread will lead us to the cotton fields, the spinning and weaving, the factory girls employed in the mills, the great variety of cotton goods, the sails of ships, a trip across the ocean, the commerce of different and distant countries, the ties that bind nations in one common brotherhood.

A linen thread will conduct us back to the field where flax grows, to the spinning and weaving of linen, to Irish linen, to the thousands of toilers who produce the beautiful fabric, to the weaver of the linen, to the rags of worn out garments, to the paper mill that manufactures the rags to paper, to the beautiful white letter paper on which our correspondence to loved ones may be written.

A hemp string leads to the fields, the rope-walks where it is manufactured into cords and ropes, to the rigging of a ship, hauling and directing the sails, carrying the commerce of the world to their destined ports.

A red, or scarlet thread, will lead us to something fiery or intense, ardent, high tempered, wars and bloodshed, or such things as will incite or inflame the passions.

A blue thread will lead one's mind up to the pale blue sky, in which the clouds are floating and behind which the stars and planets appear to us to be pursuing their nightly march; we think of distance and magnitude, of time measured off by their revolutions, and in bewildering amazement we are led to the infinite

Power that controls and directs all things from an infinite purpose.

A white thread is the emblem of innocence and purity; it leads us to the lily of the valley, flourishing near by the Rose of Sharon. This will bring to the mind a train of beautiful and lovely things. How delightful in the stillness of the night to take hold of the beautiful white thread and begin to wind it up into a ball or follow it back along the path we have traveled until we get back to the days of youth and childhood, and have the innocent amusements of our younger years pass in review before us.

The tear of sorrow may start from the eye at the recollection of friends long since gone from us; but even this opening of the fountains of affection may bring relief in the hour of affliction.

A black thread may lead us into the dark, but darkness is not always dismal. It is necessary for us as well as light. Long winter evenings bring us many comforts that we could not have under the rays of the burning sun. It is true we might travel along the line of a dark thread into dismal and gloomy regions, but we should always prefer to go along the line of the pleasant and the beautiful to feed the memory on that which will give us higher views of our lives and destinies.

The questions may arise in the minds of some, "What will be the advantage of all this?" "What can I do without an active memory to follow up these different threads?" We can easily see where the advantage of such a mental exercise is found. It is an

effort to build up and strengthen the memory, or prepare the different shelves in this storehouse for repositories of our mental wares. Instead of leaving the mind a vacant blank and tossing restless upon our beds in the stillness of the night, we may start the wheels of memory running backward over the past, and stop at the different way stations with such delight and pleasure that we will soon be lulled to sleep, perchance to dream some pleasant dreams, and awake with better opinions of life than when our minds were blank and the shelves of our memories' storehouses in a dilapidated condition.

Now we would advise any one in lonely hours to take hold of the end of a string, one of those we have referred to; the white for instance, and start back in a contemplative mood and stop to linger awhile, around every point of innocence, beauty and purity. Then let it stretch out into the future. Follow it up and on until it reaches within the very gates of the celestial city, or, if you do not wish to go quite so far just now, then take another thread and follow it along the line of which it is emblematical. Do not hasten too fast from one point to another. When you find some event in your past life linger around it as long as pleasant memories continue to come up, in group or single, and then pass on to other points; and in this way the scenes of the past will come up in succession as old associates that had appeared lost to you, and entirely faded from your memory. To those who have never made an effort to recollect the scenes of the past by such associations it will be surprising to

find the mind pictures like beautiful panoramas pass in review before them.

The memory is like the blacksmith's arm, which has grown strong from using it. There is no faculty of the human mind so susceptible of improvement as the memory, and none so much neglected.

Some persons are naturally endowed with good memories, while others are deficient, and must depend on culture for improvement.

Before letters were invented for the purpose of recording the events of life and our historic narratives, the memory must have been much stronger than it is now. The transactions and constantly recurring events of life had to be carried in the memory instead of recorded in books.

Many of the historical narratives now found in books of history, both sacred and profane, must have been preserved in the storehouse of memory for ages before they were permanently recorded in books now found in our libraries.

There are many marvelous instances on record of extraordinary memories among the ancients. It would be out of place here to enter into a detailed account of the different prodigies of memory. Speeches were committed from once having been heard, lectures, poems, and the most difficult problems the human mind can grapple with, have been retained in the memory from having only once heard them repeated. But these are rare instances, and not a common inheritance of mankind. The amount of memory we have is a natural endowment, or a working

capital on which we can improve to a marvelous extent. With every advancement we make we increase our stock in trade, and add to our wealth which no thief can steal, and no wreck of earthly fortune can destroy.

Many in advanced years can look back into the past and still see some of the treasures in the storehouse of memory, laid there in their youthful days; but with regret have to confess that recent events soon pass from their memories, and that they have no power to retain them. These persons may recollect the beautiful flowers that grew in well cultivated gardens and fields; but these are now a desert waste from a want of proper cultivation.

The mental effort in associating one thing with something that has a correspondence with some historic event, so as to call to mind not only the event itself but furnish a word that will give the exact and unmistakable date of the event, must have in itself a good effect on the memory.

It is this habit of associating one thing with another that gives a healthy exercise to the brain, by which its functions are strengthened, and also has a salutary effect on the entire physical human organism. The first symptoms of decline are seen in the loss of mental vigor. This affects very unfavorably the entire nervous system, and the intimate connection between the nerves and the muscular structure soon causes a general breaking down of all the physical energies.

There are many persons whose mental vigor is as

strong from sixty-five to seventy-five years of age as in their youthful days; but upon inquiry it will be found that all such persons have kept their minds actively employed and cultivated, especially the faculty of remembering things.

In conversation with a lady of superior intelligence and attainments, not long since, she told me that in consequence of a long and severe illness she lost her memory. On her health returning she found she could not recollect the commonest events of life. At this she became alarmed and immediately commenced a systematic course of cultivating her memory. She now has a good memory, but told me, "It is all cultivated." Had she not been endowed with a strong will power, and superior intelligence, what would have been the result? The answer to this question is plain. This lady, thus deprived of her memory, would have relapsed into a state of imbecility, bordering on idiocy, if she had not determined to regain her lost memory by a systematic effort to obtain this desirable end.

The restoring process of the wonderfully constructed organism must not be attempted by a severe strain on the body or mind; but by a gentle, easy and systematic training. This cannot be forced by slashing and driving; but by a process that will conserve the remaining forces and add new powers to those already possessed.

Close observation and experience have taught us valuable lessons on this subject.

There are some persons now in advanced years

with memory fully as strong, if not stronger than it was in the earlier days of their lives. They can look back on the line along which they have traveled, and not only see the wrecks and ruin of thousands that have prematurely fallen in their journey from a want of attention to some plain rules that should govern our two-fold nature of matter and spirit, or body and mind; but also see where their own feet had ventured near the precipice where thousands have fallen.

It is not intended here to convey the idea that we can make ourselves immortal, so far as our existence on this earth is concerned, by memory, or mental culture. It is simply purposed to show that by proper observance of certain laws we may prolong our lives, and make them more pleasant to ourselves, and more agreeable to others.

When men have valuable machinery or mechanical contrivances which they run for profit or pleasure they will carefully notice every symptom of disturbance in the movement of the different wheels, springs and weights, well knowing that if repairs are not promptly attended to the whole will soon run down and become a mass of useless material. Why not watch with eager eye the marvelous workings of this complex structure of the human organism which can only retain the higher or spiritual power by keeping in a good running condition.

The structure of the nervous system in the human constitution contains in itself a world of wonders. These channels of our vital forces have been laid with a master hand, and their healthy operations have been

left to our guardian care, and we are, to a certain extent, responsible for this trust. In mechanics we know that machinery is liable to rust and become useless from a want of proper attention; even our finest ornaments need occasional burnishing and polishing to keep their brilliancy and luster. Everything ornamental and useful demands attention to keep it in perfect order. How much more should we be concerned to keep the noblest faculty of our higher nature in an active condition.

When we awake to a sense of our duty to ourselves, and learn how to take care of and preserve that which is a natural endowment of humanity, we shall hear less complaining about the loss of memory and its consequent annoyance to us in daily life.

We speak of what we know. These rules which we recommend to others are not the wild dreams of a fanciful imagination. They are the result of careful observation and study for many years. Their application can only result in good to all who make the experiment for themselves.

The treasures of the intellect are of more value than all the hoarded accumulations of material wealth. We carry them with us, not only through this life, but to the believer in a conscious existence in a future state it amounts to more than a mere conjecture that these accumulated treasures of useful knowledge will be a rich inheritance to us in that unending state of existence where there will be an endless progression in knowledge, and increasing knowledge will give increasing power.

The cultivation of the memory can only be accomplished by a systematic effort on a well-defined course of instruction, and following certain rules of association connecting one thing with another, so as to find the names, places, and properties of things by attaching them to something which we can follow along the line of association.

CHAPTER II.

PHONETIC AND HOMOPHONETIC WORDS FOR FIGURES.

We commence with the letters of the alphabet which, in their construction, resemble figures, and can be used for numbers to any desirable extent. Figures, when standing promiscuously represent nothing, only as they are used as numerators of objects, or to express numbers. It is difficult to retain figures in the memory, especially where large numbers are presented, but words and sentences representing figures can easily be retained in the memory. In this way we can place numbers, dates, chronological tables, periods of important events in history, by selecting a familiar word that gives us the desired number. Familiar phrases may be selected to represent any desirable amount of figures, as high as the mind is capable of running them.

Several systems have been invented in which letters were used for numbers; but no one has approached so near to a complete system as Prof. Gouraud.

With some variations, we adopt his classification of words and articulation sounds corresponding with the different letters to represent figures and numbers.

The resemblance between the letters and figures will help the memory to retain them.

We select letters from our English alphabet to represent the figures.

0,	1,	2,	3,	4,	5,	6,	7,	8,	9.
z,	t,	n,	m,	r,	l,	j,	k,	f,	p.

The similarity between the figures and the letters may be easily recognized.

The first articulation of z is cipher or zero, and represents 0. This, with all the other letters representing figures, has the vowel e added to make the articulation complete.

Z—or ze, is the first articulation of *zero*, or cipher 0.
T—or te, with one single stroke represents - - 1.
N—or ne, with two strokes represents - - - 2.
M—or me, with three strokes represents - - - 3.
R—or re, is the fourth letter of *four* - - - 4.
L—or le, Roman numeration, is 50 - - - - 5.
J—or che-c resembles the figure 6 - - - 6.
K—or ke, form of key upside down, resembles 7 7.
F—or fe, the written f like an elongated 8 - - 8.
P—or pe, inverted, looks like 9 - - - - - 9.

In addition to these simple articulations of single letters, we have other letters and combinations of letters that resemble these sounds, and are articulated accordingly.

The letter d resembles the sound of t, and is articulated the same. The letter j, when inverted, bears some resemblance to the figure 6, and also in sound resembles the ch. This, and the soft sound of g, are articulated like *che*, and represent the figure 6.

The s as an apostrophe, in the possessive case, is not articulated. The t, before h, keeps the value of

t. In words where the c takes the sound of k, it has the articulation of k.

In all words where the vowels a, o, u follow c, it takes the articulation of k, and when the sound of k is distinctly heard it represents the figure 7, but in words where the k is silent, as in *knowledge*, *knight*, *knife*, etc., it has no numerical value. The hard sound of g, as in go, give, good, gloom, glad, etc., is articulated like k, and represents 7. The same in words ending in ing. The b has a sound resembling p, and the sound is produced by the same motion of the lips, and therefore represents the figure 9.

The vowels and the letters h, w, and y have no numerical value. In all combinations of letters where any of these sounds are distinctly recognized they are articulated as figures, according to the rules above stated.

For instance, in cases where the ph has the sound of f, as in phosphorus, photograph, Philip, the p loses its distinct sound and the combination with h gives the sound of f, and represents the figure 8

PHONETIC SOUND.

The addition of the vowel e to the letters articulated in numbers gives the phonetic sounds of

te, ne, me, re, le, che, ke, fe, pe, ce.
1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

To these we add

che 6, ge 7, ghe, que 7, ve, phe 8, be 9, ce 0.

Where two identical letters come together in words such as *mall*, *full*, *matter*, *will*, *mill*, the two

letters are articulated as one, me le 35, fe le 85, me, te, re, 314, le 5, me le 35.

Where two similar letters occur with two distinct sounds, both sounds are articulated into figures and have their numerical value.

The word suggest is translated ge, che, se, te, 7, 6, 0, 1. While accident will be translated ke, se, de, ne, te, 7, 0, 1, 2, 1. The same rule is observed in compound words having two similar letters joined by a hyphen, as in book-binder, be, ke, be, ne, de, re, 979214.

In words where the t occurs, but has no distinct sound, it is of no numerical value, as in watch, match, latch, che 6, me, che 36, le, che, 56.

These rules, with some variation, are according to those laid down in GOURAUD'S Philosophical Classification of Homophonic words of the English language, and with a little attention will be easily understood.

CHAPTER III.

FIGURES REPRESENTED BY LETTERS AND HOMOPHONETIC SOUNDS.

The following table gives words for numbers from 1 to 100.

The rule for representing figures by words, once understood, will enable us to represent any number of figures in statistical tables by word formulas, or to associate some object with any of these numbers, so as to recollect it in order, and in the numbers we associate with the object.

1 Hat	17 Deck	33 Mummy	49 Harp
2 Honey	18 Dove	34 Merry	50 Lass
3 Home	19 Top	35 Mill	51 Lady
4 Hero	20 News	36 Match	52 Lawn
5 Hill	21 Want	37 Make	53 Elm
6 Hush	22 None	38 Move	54 Lawyer
7 Hack	23 Name	39 Map	55 Lily
8 Hoof	24 Near	40 Horse	56 Lash
9 Hip	25 Nail	41 Road	57 Elk
10 Woods	26 Inch	42 Rain	58 Loaf
11 Tide	27 Ink	43 Room	59 Leap
12 Tin	28 Knife	44 Warrior	60 Cheese
13 Tame	29 Nap	45 Rail	61 Shoot
14 Deer	30 Mouse	46 Irish	62 Chain
15 Dale	31 Mouth	47 Rock	63 Gem
16 Dish	32 Man	48 Roof	64 Cherry

65 Jelly	74 Augur	83 Foam	92 Pin
66 Shash	75 Gale	84 Fur	93 Poem
67 Cheek	76 Cage	85 Fowl	94 Bower
68 Chaff	77 Keg	86 Fish	95 Bell
69 Ship	78 Calf	87 Fig	96 Bush
70 Kiss	79 Cab	88 Fife	97 Bake
71 Cat	80 Face	89 Fop	98 Beef
72 Gun	81 Foot	90 Posy	99 Poppy
73 Game	82 Fan	91 Pad	100 Doses

The words in the above table are so arranged that it will be comparatively easy to commit them to memory. This task being accomplished, the figures which the words represent will be known as unmistakably as if they were seen. Any object to be remembered can be associated with the word giving the number, and by this process any number of promiscuous objects can be remembered in the order in which they are repeated to us, from 1 up to 100.

This table should be so committed to memory that when the figure is named the word can be given, and when the word is named the figure can be given.

Words can be remembered when figures and numbers would be forgotten.

When the principle of representing words by figures is clearly understood, any object or number of objects may be retained in the memory by the law of association.

CHAPTER IV.

MATHEMATICAL PROBLEMS.

Moving the knight of the chess-board to sixty-four different squares without going twice into the same square until it returns to the starting point at number one.

It is said that this interesting problem was solved by the celebrated mathematician, Euler, after a number of years' constant experiment.

The chess-board is numbered from one to sixty-four

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64

The knight will have to pass into the squares in the following order, starting from number 1, move till he returns to the same number without stopping twice in the same square:

1, 11, 5, 15, 32, 47, 64, 54, 60, 50, 35, 41, 26, 9, 3, 13, 7, 24, 39, 56, 62, 45, 30, 20, 37, 22, 28, 38, 21, 36, 19, 25, 10, 4, 14, 8, 23, 40, 55, 61, 51, 57, 42, 59, 53, 63, 48, 31, 16, 6, 12, 2, 17, 34, 49, 43, 58, 52, 46, 29, 44, 27, 33, 18, 1.

When the key to this problem is understood, which can easily be commited to memory, any one can retain all these figures in the memory in the order in which they are given above.

The key to this problem will be found in another place.

I have taken the following from Francis Fauvel-Gouraud's Philosophical Classification of Homophonetic Words of the English language, and arranged a formula of words by which this array of figures can be committed and retained in the memory.

Now the fact that a person past seventy-five years of age can accomplish this is proof that this system of memorizing is plain, and that the task is easily accomplished.

SECOND PROBLEM OF THE CHESS-PLAY.

It is said that Sysla, the Brahmin who invented the chess play having caused such a high satisfaction to Sirham, the Indian king to whom he first presented it, the king told him to ask for any favor he might wish in recompense for his brilliant invention. Sysla modestly asked for *one single grain of wheat*, geometrically doubled upon itself from the first square of the chess-board down to the last, or sixty fourth. The king, spurning

what he judged to be a nonsensical petition, unworthy of his royal munificence, ordered his grand treasurer to deliver up to Sysla one million of measures of wheat, or, upon the choice of Sysla, the sum of money equivalent to the price of the same number of measures. But the Brahmin having insisted upon the sacredness of the royal word which had given him the choice of his recompense, upon examination it was found that the number of grains upon the sixty-fourth square of the chess-board would be

Grains, 3 3 8 9 3 4 8 7 5 0 3 1 7 4 0 1 0 9 3 0 ;

and as one pound (*avoirdupois*) of wheat, of a good quality, contains an average of 13,184 grains, one American bushel, or sixty pounds, will contain 791,040 grains, and one ton or 2,000 pounds, 26,368,000 grains. Divide the whole number of grains by these different proportions, and we find that it contains, in

Pounds, 2 5 7 0 8 0 4 5 7 3 9 6 6 4 7 5,

Bushels, 4 2 8 4 6 7 4 2 8 9 9 4 4 1,

Tons, 1 2 8 5 4 0 2 2 8 6 9 8 3;

which would be worth, at $1 the bushel, or $33.40 the ton,

$4 2 8 4 6 7 4 2 8 9 9 4 4 1;

which would load as many canal boats of 40 tons as

3 2 1 3 5 0 5 7 1 7 4;

or as many vessels of 300 tons, as

4 2 8 4 6 7 4 2 8 9;

which would make as many loaves of bread, of one pound, as

2 5 7 0 8 0 4 5 7 3 9 6 6 4 7 5;

and which would feed all the population of the globe, or 1,000-000,000 of souls, at one pound a day, or 365 pounds a year for each, as long as

7, 0 4 3 years, 2 0 9 days.

EXPLANATION IN REFERENCE TO THE KEY TO THE PROBLEM OF THE KNIGHT OF THE CHESS-BOARD.

A certain classification of words will give the homophonetic sounds, by which each figure or number may be readily distinguished.

The words themselves mean nothing but the representatives of the numbers or figures passed over by the knight of the chess-board, from one to sixty-four. These key words are so arranged as to make it com-

paratively easy to remember them in the order in which they stand.

Bear in mind that the vowels and the consonants h and w have no numerical value, and other letters take the numerical value of the first class of letters that have a similarity to the figures, on account of their homophonetic analysis, or similarity in sound. The ch combination resembles g, or g soft represents the figure 6, while the hard sound of g, and the c when followed by a, o, or u, and in all cases where it takes the sound of k, represents the figure 7, while c, before i, and in all cases where it has the sound of z, represents the zero or cipher o sound.

The d, v, and b, represent the same figures as t, f, and p, from similarity of sound. Any letter representing a figure has no numerical value when it is silent, or its sound is not distinctly heard, as t, in watch. Here the ch sound is distinct, but the t sound indistinct, and represents 6, and not 16, as it would if the t had a distinct sound. The k, in knife, knock, etc., has no numerical value. The l, in calf, and in all words where it is silent, has no numerical value. In the word *laugh* we have the l and f sound, which represent 58.

With these explanations we give the key to the problem of the knight of the chess-board.

By the above explanation it will be an easy task to understand how the following words will conduct the knight to 64 different squares without passing twice into the same square.

The key words are:
Hat, tide, hill, dale, moon, rock, jewry, lawyer.
Cheese, less, mill, rat, inch, pie.
Home, time, key, honor, mop, lash.
John, rule, miss, niece, make, none, enough.
Move, not, much, top, nail.
Does, your, dear, wife, name, rose, lily.
Shoot, wild, elk.
Run, leap, lame, Jim.
Rough, maid, teach, joy.
Dine, honey, dig, merry.
Europe, army, love, lion, Irish, nap.
Horror, Yankee, mummy, doff, hat.

CHAPTER V.

We have already referred to a proper training of the memory to give it strength, the same as we train our physical organism, to develop and strengthen the muscles of the body. The mind needs pleasant and healthful recreation, as much as the body. We do not send invalids to solitary wastes and deserts of inhospitable climates, where the mind is, in a manner, compelled to dwell on the gloomy surroundings, but we recommend them to the regions of sunshine, where there is healthy atmosphere, and where there are pleasant surroundings—where the fragrance of flowers and the melody of song and other cheering influences contribute much to build up and keep in good repair the tabernacle in which the mind dwells, and through which it acts.

There is, undoubtedly, much truth in the system of treating the sick, commonly called "mind cure," or psychopathy, as some call it. The mind has a controlling influence over the body, and the physical conditions over the mind, as well. As positive and negative electrical conditions control the universal empire of matter, so mind in nature has a controlling influence in the operations of nature.

Science is just now looking for the first stepping stone in an effort to solve the mysterious problem of

human life. One solid truth after another will finally be discovered, and humanity will reap the benefit of our advancement in knowledge. Persevering efforts will finally enable us to solve many of the apparent mysteries connected with our present mode of existtence. Nature furnishes us with an abundance of objects for mental gymnastics, and we have only to pass through her vast Alhambra with our eyes open to see her beauties, and our ears open to hear her melodies; and our minds receptive to receive the impress which the Infinite Author of Nature is ready always to make upon the mind thirsting and longing for knowledge.

The following, from Southey, is a difficult piece to remember by an ordinary effort of the memory. In the exercise of mental gymnastics it became an easy and interesting task, not only to commit the whole to memory, but to know each line from the number standing before it:

THE CATARACT OF LODORE.

1. Here it comes sparkling,
2. And there it lies darkling;
3. Here smoking and frothing,
4. Its tumult and wrath in,
5. It hastens along, conflicting and strong.
6. Now striking and raging,
7. As if a war waging,
8. Its caverns and rocks among.
9. Rising and leaping,
10. Sinking and creeping,
11. Swelling and flinging,

12. Showering and springing,
13. Eddying and whisking,
14. Sprouting and frisking,
15. Turning and twisting,
16. Around and around,
17. Collecting, disjecting
18. With endless rebound;
19. Smiting and fighting,
20. A sight to delight in;
21. Confounding, astounding,
22. Dizzying and deafening the ear with its sound.
23. Reeding and speeding
24. And shocking and rocking,
25. And darting and parting,
26. And threading and spreading,
27. And whizzing and hissing,
28. And dripping and skipping,
29. And whitening and brightening,
30. And quivering and shivering,
31. And hitting and splitting,
32. And shining and twining,
33. And rattling and battling,
34. And shaking and quaking,
35. And pouring and roaring,
36. And waving and raving,
37. And tossing and crossing,
38. And flowing and growing,
39. And running and stunning,
40. And hurrying and scurrying,
41. And glittering and flittering,

42. And gathering and feathering,
43. And dinning and spinning,
44. And foaming and roaming,
45. And dropping and hopping,
46. And working and jerking,
47. And heaving and cleaving,
48. And thundering and floundering,
49. And falling and crawling and sprawling,
50. And driving and riving and striving,
51. And sprinkling and twinkling and wrinkling,
52. And sounding and rounding and bounding,
53. And bubbling and troubling and doubling,
54. Diving and gliding and sliding,
55. And grumbling and rumbling and tumbling,
56. And clattering and battering and shattering,
57. And gleaming and steaming and streaming and beaming,
58. And rushing and flushing, and brushing and gushing,
59. And flapping and rapping, and clapping and slapping,
60. And curling and whirling, and purling and twirling,
61. Retreating and beating, and meeting and sheeting,
62. Delaying and straying, and playing and spraying,
63. Advancing and prancing, and glancing and dancing,

64. Recoiling, turmoiling and toiling and boiling,
65. And thumping and flumping, and bumping and gumping,
66. And dashing and flashing and splashing and clashing,
67. And so never ending, but always descending,
68. Sounds and motions forever are blending,
69. All at once and all o'er, with a mighty uproar,
70. And this is the way the water came down at Lodore.

KEY TO THE SECOND PROBLEM OF THE CHESS BOARD.

To make this as plain as possible, without putting the most ordinary capacity to a severe mental effort, we give the key words in connection with the figures so that the study of the problem will be as agreeable to the mental as swinging dumb-bells, or any other exercise, is to the physical. Authors frequently have their subjects so completely fixed in their own minds that they take it for granted that the reader will see it, and understand it in an instant, but this is often not true.

The key words representing figures can be retained in the memory as easily as if they expressed the most elegant sentiments in prose or poetry.

To give

THE TOTAL IN GRAINS. *We start with a gray*

mummy fop, more fog, less mud, curiosity, sweep, muss.

The words in italics are the first links of the chain which the mind takes hold of. "We start," signifies the commencement of the problem. The word *gray* suggests the idea of *grains*, and the key words give the figures as follows: me, me, fe, pe, me, re, fe, ge, le, se, me, te, ke, re, se, te, se, pe, me, se.

GRAINS IN A POUND.

He who undertakes to count the grains in one pound in a *minute* will have to be in haste, or be

Timed over.

Te, me, de, ve, re.

GRAINS IN A BUSHEL.

The man who counted the grains of wheat and *rice* in a bushel,

Kept his rice.

Ke, pe, te, se, re, se.

GRAINS IN ONE TON, OR 2,000 POUNDS.

Towns have barber shops, but in the country

No chum shaves us so.

Ne, che, me, she, ve, se, se.

Divide the whole number of grains by these different proportions, and we find that it contains in POUNDS. *Pound the rogue*, we have.

No locks; officer; lock him up; chew charcoal.

Ne, le, ke, se, fe, se, re, le, ke, me, pe, che, che, re, ke, le.

BUSHELS, *bush man*,

Run for sugar; no half pay boy reward.

Re, ne, fe, re, she, ge, re, ne, fe, pe, be, re, re, de.

TONS. *Large towns* are not made by a

Wooden hovel, race union, fish pie fame.

De, ne, ve, le, re, se, ne, ne, fe, she, pe, fe, me.

Which would be worth at $1 the bushel. See key word "*bush man.*"

LOAD CANAL BOATS AT 40 TONS.

If I owned the whole and one would *sink*, I would

Mind my loss like a digger.

Me, ne, de, me, le, se, le, ke, te, ke, re.

LOAD VESSELS AT 300 TONS.

The captain of the ship would make a *servant boy.*

Run for sugar; navy pie.

Re, ne, fe, re, she, ge, re, ne, ve, pe.

Which would make as many loaves, at one pound each, as, see *Pound the rogue.*

Which would feed the population of the globe, or 1,000,000,000, at one pound a day, or 365 pounds a year, for each as long as 7,043 years, 209 days.

Gas room and newsboy.

Gn, se, re, me, & ne, se, be.

CHAPTER VI.

ILLUSTRATIONS IN MENTAL GYMNASTICS.

As already stated, the process of exercising the memory so as to fix and retain numbers, dates, and figures, to any desirable amount, is so plain and easy that the mind is at once interested, and the exercise becomes a pleasant and agreeable task, and the benefits are incalculable.

An incident will illustrate this. A short time since the author met a friend in a bookstore, and while looking at a copy of the revised version of the Bible, said, "I can commit to memory, in a few hours, every page on which the books of the Old Testament commence;" and in about three hours the task was accomplished, and these numbers are easily retained in memory. Not only were the pages on which the book commences committed but the number of chapters in each book, by the following process:

First, we must find some word as a *link* by which we get the name of the object. These link words are always printed in italics to impress them upon the mind. In some instances the matter is so plain that we do not need a link word, as in Genesis.

We know that Genesis commences on the first

page, but in getting the number of chapters the book contains we must have a key word, and these key words stand alone so as to distinguish them from the sentence from which we get them. To get the number of chapters in the book of Genesis we remember

This book gives the account of our *Loss.*

Exodus: This gives an account of the *journey* of the children of Israel, and we can easily imagine that they have no *Road.*

And when Pharo pursued them they were on a *Race.*

Leviticus: *Levi* takes the priesthood with a *Gush.*

And would not take the *poor man* on his *Nag.*

Numbers: *No bars* can keep away the *Dust.*

Nor keep one from a *Mash.*

Deuteronomy: *Do it* for the law is *Adamic.*

Keep it and be *Merry.*

Joshua: *Jo shoe a* horse to make the *Head Shake.*

And he will be a *Winner.*

Judges: A *judge* of music would not play on a *Hot Fife.*

He might *lose* his *Wind.*

Ruth: Gleaning amongst the reapers was *Unsafe.*

But had no fears from an *Arrow.*

I Samuel: When Samuel *first* went to the house of Eli he was *Needed.*

But had to live *without* a *Mate.*

II Samuel: The *second* time he was called he found he had nothing to *Unmake.*

And took one from the *Owner.*

I Kings: Saul, the *first* king from David, had *No Help.*

With all his power he found himself a *Ninny.*

II. *Two Kings*, when crossing Jordan, had *No Ferry.*

But hung their garments on a *Nail.*

I Chronicles: One *crown* on a *nickel* would be rather *Massive.*

But not on a *Knob.*

II Chronicles: *Two chronic* kings in their schemes *May Miss.*

Yet men will do them *Homage.*

Ezra: *Israel* had wounds he could not *Mollify.*

He left them in the *Woods.*

Nehemiah: *No hymn I* know would make his *Home Jewish.*

For he came from the race of *Adam.*

Esther: *A stir* was made because Mordecai sat at the gate *Smoking.*

And this for Haaman was a bitter *Dose.*

Job: Job's friends made him a *Muffy Home.*

But he looked at it as *Irony.*

Psalms: The psalmist did not play his *harp* with a *Rasp.*

As all who heard him could see him *Hatless.*

Proverbs: The book of proverbs was the King's *Organ.*

Because he gave many a pious *Motto.*

Ecclesiastes was a preacher, while David was a *Harper.*

Because he had much *Twine.*

The Song of Songs: This *long song* was not played on an *Air Pipe.*

Not for a *Fee.*

Isaiah: This *prophet* was an *All-seer.*

As from his writings we may *Judge.*

Jeremiah: *Cheer a man* that gives you an *Alarm.*

Especially if you are *Alone.*

Lamentations: A *lame man* cried loud and long like a *Hill Fife.*

On a *Hill.*

Ezekiel: *Is he killed?* Then put his name in your *Album.*

And do not treat him *Rough.*

Daniel: *Done well* in the lions' den as a *Tamer.*

He kept the lions *Down.*

Hosea: *A house* of worship is a *Church.*

With a large *Door.*

Joel: *Joel in* solitude is like a *Jew Alone.*

Yet he may be at *Home.*

Amos: *A muss* is not good for a *Jeweler.*

Where things are thrown into a *Pie.*

Obadiah: *O a bed* is better to sleep on than a *Shelf.*

But when you lie down take off your *Hat.*

Jonah was as nauseating to the whale's stomach as a dose of *Jalap.*

And he was no *Hero.*

Micah: *Transparent mica* is not as good to write on as a *Jew Sheet.*

Yet it may be tough as *Oak.*

Nahum: *No ham* would please him as well as a *Jew Cherry.*

Which he might find at *Home.*

Habakuk. He would *have a cook* that would prepare his meals *Jewishly.*

In his own *Home.*

Zephaniah: *So fine* a prophet would prefer a boot jack to a *Shoe Jack.*

To use it in his *Home.*

Haggai: *High Gears* look like a *Jew Job.*

But not so sweet as *Honey.*

Zachariah: *So carry* your burthen like a *Jack Ass.*

Though heavy as a *Deer.*

Malachi: *Mal* treatment makes many a one go *Gogging.*

And dragging like a *Harrow.*

The foregoing is only intended to illustrate the manner of forming short sentences containing *link* and *key* words upon which the memory fastens, and from which it transfers itself to other words that may have some correspondence with the *link* words, and give the word that contains the proper numbers.

It is quite likely that some will object to this and regard it as a round-about way of getting at the word containing the number. But a fair trial and experience will soon convince the most skeptical that this process of linking one class of words with others, has a marvelous effect on the memory by giving it strength and vigor.

The words we are sometimes compelled to take may appear simple and ludicrous, but even this will enable the memory to retain them better.

We are not arranging choice words and elegant sentences, but memory-shelves and hooks on which to lay or hang our words and numbers, so as to have them at a moment's notice.

To make this perfectly plain we give some illustrations from the preceding formulas:

The word Exodus at once gives the idea of a journey—of the wilderness, where there was no *road.* The word road gives 41 for the page. Now it is very plain that when Pharo pursued them, they were on a *race;* this gives the figure 40. *Levi takes* corresponds with Leviticus, *no bars* with Numbers, and so on through the list.

By carefully looking over the formulas again you will see how one thing hitches on to another, so as to make the chain complete.

We can present numerous illustrations to show the advantages of this system of fixing numbers in the mind by words that are not easily forgotten. Forty years ago the writer lived in the city of Baltimore, and was requested to call at No. 75 Argyle alley at a meat market, and the meat market suggested the idea of killing, and the word *kill* was fixed on, which gives 75, and this has remained in the mind over forty years.

Some time since a young lad, going to school, complained of a poor memory. When asked to remember the number of a watch which was 3985, he said he could not retain this number in his memory. I told him to remember that when the girl scrubbed the kitchen she made the *mop fly*. This he could remember without the least difficulty, and this word *mop fly* gives 3985. Now these little associations would at once commence to strengthen his memory, and by following the rules laid down in this work, he will soon be able to recollect anything he may wish to store away in his memory.

As a convenience for reference from the formulas giving the pages where the books of the Bible commence, and the number of chapters in each book, we give the figures, as all Bibles are not paged in the same way, and it will be good exercise to get the figures from the formulas or words, and then refer to these figures to find them correct.

Books.	Pages.	Chapters.
Genesis	1	50
Exodus	41	40

Books.	Pages.	Chapters.
Leviticus	76	27
Numbers	101	36
Deuteoronomy	137	34
Joshua	167	24
Judges	188	21
Ruth	208	4
I Samuel	211	31
II Samuel	237	24
I Kings	259	22
II Kings	284	25
I Chronicles	308	29
II Chronicles	330	36
Ezra	358	10
Nehemiah	366	13
Esther	377	10
Job	383	42
Psalms	409	150
Proverbs	472	31
Ecclesiastes	494	12
Song of Songs	499	8
Isaiah	504	66
Jeremiah	543	52
Lamentations	588	5
Ezekiel	593	48
Daniel	634	12
Hosea	646	14
Joel	652	3
Amos	654	9
Obadiah	658	1
Jonah	659	4
Micah	661	7
Nahum	664	3
Habbakuk	665	3
Zephaniah	667	3
Haggai	669	2
Zachariah	670	14
Malachi	677	4

CHAPTER VII.

MISCELLANEOUS ARTICULATIONS.

In which some brief words give large numbers, and long words small numbers.

1. Woody, widow, headway, heath, hood, hide, ahead, weighty. 2. Honey, knew, own, now. 3. Haymow, home, my, 299. Nabob. 412. Warden, ordain, retain, written, harden. 841. Virtue, overdo, afraid, fright, freight, Friday, forehead. 851. Flight, field, fluid, fled, vailed. 859. Flap, flop, flip. 941. Bird, bright, proud, parrot, breath, brute, bread, abroad, board, part, party. 950. Policy. pulse, plus, bliss, please, hopeless, palace, applause. 951. Plod, plate, build, blood, pallet, ballot, behold, ability. 1014. Destroy, twister, duster, toaster. 1421. Tornado, adorned, trinity, eternity, trained, tyrant, hydrant. 1491. Torpedo, tribute, tripod, thereabout, water-pot, turbid. 1514. Dilator, idolator, dilatory, delighter. 1714. Educator, doctor, together. 1801. Headfast, deficit, defaced, divest, devised, diffused. 901. Debased, deposed, deposit, deepest. 2140. Notorious. indorse, nitrous, wondrous, inodorous. 2142. Unitarian, undrawn, enthrown. 2480. Nervines. 2482. Nervine. 2500. Analysis. 2585. Unlawful. 2712. Nicotine. 2723.

Nickname. 2739. Encamp. 2744. Enquirer. 2810. Invidious. 2844. Inferior. 2870. Infix. 2874. Invigor. 2895. Enfeeble. 2911. Unpitied. 2942. Inborn, unborn. 2951. Unbolt. 3014. Moisture. 3023. Misname. 3052. Muslin. 3058. Himself. 3068. Mischief. 3071. Mosquito. 3078. Misgive. 3095. Misspell. 3105. Mudsill. 3114. Imitator. 3141. Matured. 3142. Modern. 3156. Mythology. 3169. Midship. 3186. Mud-fish. 3209. Mince pie. 3212. Monotony. 3247. Monarchy. 3245. Mineral. 3256. Hymnology. 3262. Mention, moonshine. 3276. Monkish. 3297. Money-bag. 3321. Moment. 3340. Memorize. 3374. Mimicry. 3395. Mumble. 3405. Morsel. 3412. Meridian. 3418. Mortify. 3432. Mormon. 3470. Marquis. 3495. Marble. 3510. Melodious. 3517. Homoletic. 3540. Mill-race. 3601. Majesty. 3720. Meekness. 3275. Mongolia. 3726. Magnesia. 3728. Magnify. 3741. Emigrate. 3745. Mackerel. 3940. Impress. 3943. Emporium. 3947. Embark. 3953. Emblem. 4034. Rosemary. 4075. Rascal. 4107. Heartsick. 4134. Redeemer. 4149. Wardrobe. 4150. Artless. 4175. Article. 4177. Earthquake. 4213. Random. 4264. Ranger. 4286. Hornfish. 4391. Armpit. 4751. Haircloth. 4848. Riff-raff. 4885. Revival. 4921. Urbanity. 4947. Rubric. 4960. Rapacious. 5012. Hailstone. 5072. Eelskin. 5090. Allspice. 5157. Lady-like. 5197. Lady-bug. 5204. Lancer. 5264. Lounger. 5394. Lumber. 5701. Laxity. 5727. Laconic. 5742. Alcoren. 5891. Alpha-

bet. 6049. Jewsharp. 6161. Chit, chat. 6245. General. 6264. Ginger. 6425. Journal. 6791. Jacobite. 6952. Chaplain. 7062. Oxygen. 7070. Excuse. 7071. Exact. 7091. Exhibit. 7094. Expire. 7103. Egotism. 7109. Catsup. 7115. Cat-tail. 7129. Kidnap. 7174. Category. 7175. Catcall. 7212. Canadian. 7270. Equinox. 7275. Kingly. 7284. Confer. 7375. Comical. 7401. Crest, grist, crust, corset. 7404. Grocery, grazer, grocer. 7408. Aggressive. 7409. Grasp, crisp, cross-bow. 7411. Graduate, greeted, courted, credit. 7420. Greenhouse, cornice, grains, eagerness. 7424. Grainer, corner. 7427. Crank. 7439. Crimp, cramp. 7454. Growler, crawler. 7456. Girlish. 7460. Gracious. 7471. Correct. 7487. Graphic. 7485. Gravel. 7495. Grapple. 7503. Gleesome. 7509. Clasp. 7512. Gladden. 7524. Gleaner. 7526. Clannish, clownish. 7531. Calumet, climate. 7544. Clearer. 7546. Clergy. 7547. Clerk. 7548. Glorify. 7550. Guileless. 7569. Coal-ship. 7584. Glover. 7611. Cogitate. 7697. Cash-book. 7715. Cocktail. 7741. Go-cart. 7743. Cook-room. 7750. Goggles. 7794. Cow-keeper. 7854. Cavalry. 7918. Captive. 7941. Copyright. 7954. Cobbler. 7970. Cow-pox. 7997. Copy-book. 8014. Faster. 8018. Festive. 8081. Phosphate. 8084. Phosphor. 8130. Ofttimes. 8145. Vitriol. 8216. Vintage. 8274. Vinegar. 8322. Feminine. 8350. Fameless. 8354. Familiar. 8401. First.

CHAPTER VIII.

ARTICULATION OF DIFFERENT WORDS OFTEN GIVING THE SAME NUMBERS.

8402. Overseen, foreseen. 8403. Aphorism. 8404. Overseer, verser, forswear, forcer, foreseer, 8405. Frizzle, fiercely, furiously. 8407. Frisky, haversack, Pharisaic, frisk, forsake. 8408. Versify. 8410. Overdose, virtuous. 8411. Affrighted, forthwith, fortieth, frighted, freighted. 8412. Overdone, fortune, fourteen, frighten. 8413. Aforetime, foredoom, freedom. 8414. Farther, further, overdraw, overthrow, overture, verdure. 8415. Fertile, foretell, fourthly. 8416. Fruitage, foreteach. 8417. Overtake, overtook. 8418. Frutive, fortify. 8419. Overtop, foretop. 8420. Furnace, freeness, variance. 8421. Afront, fore-end, forewind, overneat, overnight, veranda, friend, front, fore-hand, affront, 8424. Foreigner, vernier. 8425. Vernal. 8426. Varnish, fringy, furnish, French. 8427. Frank. 8430. Pharmacy, farm-house. 8431. Formed, framed, farmed, affirmed. 8432. Foreman, freeman, freewoman, fireman, vermin, ferryman. 8434. Evermore, farmer, former. 8435. Formal, firmly, formula. 8436. Overmuch. 8440. Foreh orse. 8441. Over-heard, over-wrought, forward, froward, over-

ride, over-rate. 8442. Over-worn, forerun, forewarn, over-run. 8443. Fore-arm. 8445. Overrule. 8446. Overarch. 8447. Firework, overwork. 8450. Fearless. 8451. Over-load, overlaid, frailty, varioloid, freehold. 8453. Overwhelm. 8456. Overlash. 8457. Overlook, firelock, frolick, fairy-like. 8458. Overlove, overlive. 8459. Overloop, overleap. 8460. Voracious, avaricious, feracious. 8461. Fore-shadow, overshot, overshade, freshet, over-shadow. 8462. Freshen, virgin, eversion, version. 8464. Forger, forager, forgery. 8465. Freshly, fragile. 8469. Fore-ship, fire-ship. 8470. Varicous, fracas. 8471. Forked, fork-head, overact, variegate, forgot, forget. 8472. Firkin, foregone, African, overgone. 8473. Overcome. 8474. Overgrow, fore-goer, over-eager. 8475. Freckle, freckly, fire-clay, frugal. 8476. Freakish, 8477. Fire-cock. 8478. Forgive, forgave. 8481. Fervid, fore-foot, verified, overfeed. 8484. Forever. verifier. 8485. Fire-fly, fearful, over-flow, over-fill. over-vail. 8486. Farfetch. 8490. Verbose, overpass. 8491. Fire-pot, forebode, forbid, overbid. 8492. Ever-open, fire-pan. 8494. Overbear, forbear, overpower. 8495. Friable, fire-ball, variable, variably, verbal, overblow, furbelow. 8496. Furbish, verbiage, frubish. 8500. Falaceous. 8501. Falsity, falsehood, felicity, fleeced. 8503. Fulsome. 8504. Fleecer, falser. 8505. Falsely. 8508. Philosophy, falsify. 8510. Afflatus, flatwise. 8511. Validity, affiliated, flighted, floated, fluidity, folded, violated. 8512. Heavy-laden. 8514. Foulder, evil-

doer, upholder, violater, falter, vulture, filter, folder. 8515. Filthily, flatly, fleetly. 8517. Voltaic. 8520. Felonous, fullness, felonious, awfulness, fluency, vileness, violence, affluence. 8521. Flint, flinty, effluent, violent, affluent, valient. 8526. Flinch, avalanche. 8527. Flank. 8530. Flimsy. 8539. Flambeau. 8540. Valorous, effloresce. 8541. Foolhardy, florid, flirt. 8542. Florin, fluorin. 8545. Floral, 8546. Flourish. 8550. Valueless. 8561. Flushed. 8562. Evolation, evulsion, valuation, violation, valuation. 8564. Flasher, flusher. 8565. Foolishly, fallaciously. 8567. Flesh-hook. 8570. Flux, flax, efflux, afflux. 8571. Afflict, vulgate, flogged. 8572. Vulcano, volcano, flagon. 8574. Vulgar, flicker 8580. Flavous. 8581. Velvet, full-fed. vilified 8583. Effluvium. 8584. Vilifier, flavor. 8585. Fulfil. 8586. Fly-fish. 8591. Flea-bite. 8592. Flea-bane, fly-bane. 8595. Valuable, fly-blow, available, fallible. 8597. Philippic. 8605. Viciously, officiously. 8608. Vouchsafe. 8611. Viciated, vitiated. 8618. Fugitive. 8621. Fashioned. 8624. Visionary, fashioner. 8625. Visional. 8632. Fish-woman. 8635. Fish-meal. 8643. Fishroom. 8657. Fish-like. 8677. Fish-gig. 8701. Vexed, faxed, fixed. 8706. Foxish. 8713. Victim. 8714. Vector, victor, factur-factory, factor, victory, fig-tree. 8721. Vacant, vis, count. 8740. Vigorous, vicarious. 8750. Vocalize. 8751. Faculty. 8758. Figleaf. 8760. Factious. 8762. Vocation, fiction. 8801. Vivacity, half-faced. 8811. Fiftieth. 8812. Fifteen. 8815. Viv-

idly. 8841. Favoured. 8844. Favorer. 8846. Feverish. 8848. Feverfew. 8860. Vivacious. 8880. Viva-voce. 8921. Hoof-bound. 8944. Vaporer, February. 8945. Febrile. 9010. Besides, pest-house, post-house. 9011. Apostate, posted, bestowed. 9012. Abstain, piston. 9013. Pastime. 9014. Bestrew, whipster, pastry, pasture. 9015. Pastel, pustule, bastile, pastil, pistol, pistole, bestowal, beastly. 9016. Postage. 9017. Whip-stock. 9018. Whip-staff, positive. 9020. Absence, business, baseness, poisonous, absence. 9021. Poisoned, obscenity. 9024. Poisoner. 9031. Bismuth. 9035. Piece-meal. 9041. Absurd. 9048. Observe. 9049. Absorb. 9050. Baseless. 9051. Absolute, obsolete. 9062. Position, bastion. 9064. Beseecher. 9070. Obsequious. 9071. Biscuit, basket. 9072. Buskin. 9074. Obscure. 9079. Episcopy. 9085. Bass-viol, peaceful, peacefully. 9087. Pacific. 9095. Boys-play. 9100. Hypothesis. 9101. Bedside, pietist, bedust. 9103. Buddhism. 9105. Piteously. 9107. Bedusk. 9113. Bed-time. 9117. Hypothetic. 9120. Badness. 9121. Potent, obedient, patentee, patent. 9127. Botanic. 9131. Bed-mate. 9132. Abdomen, boatman. 9137. Epidemic. 9141. Betrayed, putrid, patriot. 9142. Pattern. 9143. Bath-room, bedroom. 9145. Petrol. 9148. Putrify. 9149. Betrap, boat-rope. 9162. Optician, petition. 9163. Potassium. 9170. Optics. 9171. Abdicate, obduct. 9172. Bodkin, betoken. 9174. Apothecary, pedigree. 9175. Hepatical. 9185. Pitfall, pitiful, beautifully. 9195. Habitable. 9201. Pianist, boneset.

9205. Pencil. 9208. Pensive. 92'0. Bounteous. 9211. Painted, bounded, pounded. 9212. Pantheon. abandon. 9214. Bender, pointer, banter, pantry, pointer, panther, boundary. 9215. Bundle. 9216. Bandage, bondage. 9218. Opiniative, pontiff. 9220. Pennace. 9232. Penman. 9240. Penurious. 9243. Panorama. 9250. Paneless, boneless, painless. 9251. Penalty. 9261. Banished, pinched. 9264. Pincher, puncher. 9270. Pin-case. 9274. Banker. 9275. Pinacle. 9281. Bona-fide. 9284. Bonfire. 9285. Painful. 9295. Pine-apple. 9321. Payment. 9350. Beamless. 9390. Pompous. 9394. Pamper, pumper. 9400. Process, precise. 9401. Brest, procede, priest, bruised, proceed. 9403. Hebraism, prism. 9404. Piercer. 9405. Parcel, parsley, Brazil, parasol, perusal. 9406. Presage. 9407. Brisk. 9410. Paradise, produce. 9411. Birth-day, bright-eyed, breathed, bare-headed. 9412. Puritan, brighten, burden, Briton. 9414. Portray, barter, breeder, pear-tree, brother, porter, border, operator. 9415. Port-hole, prattle, bridle, bridewell, partly, portal, portly, brutal, pertly. 9416. Prodigy, brutish, British. 9417. Partake, periodic, partook, burdock. 9418. Abortive, operative. 9420. Bareness, pureness, prance, bronze, appearance, barrenness. 9421. Pruned, burnet, hybernate, baronet, parent, print, brandy, brant. 9422. Hibernian, pronoun. 9424. Pruner, burner. 9425. Prunel, perennial. 9426. Brownish, burnish, branch. 9427. Prank, brink. 9430. Primacy, premise, promise. 9431. Permit, promote, pyramid. 9432. Brahmin.

9434. Premier, primary, primer. 9435. Primal. 9437. Abrahamic. 9430. Promise. 9439. Primp. 9440. Prioress. 9441. Priority. 9450. Paralize, powerless, perilous. 9451. Broiled, prelate, prelude. 9452. Purloin, perihelion. 9453. Power-loom. 9454. Brawler, parlor, broiler, prowler. 9457. Bear-like. 9460. Prescious, purchase. 9461. Brushed, brush-wood, preached. 9462. Progeny, Prussian, portion, operation, apparition, apportion. 9464. Perjury, preacher, purger. 9471. Apricot, brigade, barracada, abrogate, brocade, barked. 9472. Broken, bargain. 9474. Broker, pricker, procure, breaker, parker, barker, burgher. 9475. Prickly, prickle. 9476. Breakage, brackish. 9480. Pervious, preface, previous, proviso, prophesy, profuse, profess, privacy, profuse. 9481. Prophet, privet, bare-foot, approved, provide, bereft, brevity, profit, proved. 9482. Profane, proven. 9483. Perfume. 9484. Approver, prefer, bravery, purifier. 9485. Approval, bravely, paravail, prevail, briefly. 9487. Provoke. 9490. Perhaps, purpose, prepose, 9491. Approbate, probate, abrupt, prohibit, barbed, brow-beat. 9492. Bare-bone. 9494. Bribery, proper, briber, prepare, barber. 9495. Parabola, parboil, parable. 9497. Barbecue. 9501. Blest, placid, pleased, placed, pulsate, blast. 9502. Blazon. 9503. Balsam, playsome. 9504. Plaser, blazer. 9505. Hopelessly. 9507. Obelisk. 9510. Poultice. 9511. Applauded, plated, belated, bolthead, pelted, blotted, polluted, palliated. 9512. Platina, palatine, platoon, bulletin, bella-donna. 9514. Apple-tree,

bowlder, peltry, pelter, pleader, beholder, poultry, builder, bell-wether. 9515. Belittle, boldly, politely. 9517. Baltic, politic, bull-dog. 9518. Palative, appellative. 9520. Ableness, paleness. 9521. Planet, plenty, blind, plant, upland, blunt. 9524. Balneary, plenary, planner. 9525. Plainly. 9527. Oblong, plank, belong. 9531. Playmate, blamed. 9532. Bell-man. 9535. Pell-mell. 9537. Polemic. 9539. Plump. 9540. Pleurisy, polarize. 9541. Apple-yard, bleer-eyed, polarity, blurred. 9543. Pile-worm. 9545. Plural. 9546. Bulrushy. 9547. Bulwark. 9561. Abolished, polished. obliged, pillaged. 9562. Ablution, pollution. 9564. Abolisher, polisher. 9570. Block-house, Black-sea. 9571. Pole-cat, blockade, bulk-head, obligate, black-eyed, block-head. 9572. Balcony. 9573. Polygamy. 9576. Blackish. 9578. Bull-calf. 9579. Blue-cap. 9580. Pelvis, oblivious. 9581. Beloved, bull-fight, believed. 9584. Believer, pilfer, belfry. 9585. Pailful, baleful. 9586. Blue-fish. 9590. Epilepsy. 9591. Pulpit. 9592. Plebeian. 9594. Belabor, blubber. 9595. Play-bill. 9597. Pull-back, play-book. 9598. Bull-beef. 9599. Blow-pipe. 9614. Peach-tree, beech-tree. 9620. Patience. 9621. Passionate, passioned. 9625. Optional. 9627. Passion-week. 9632. Bushman. 9654. Bachelor. 9671. Object. 9685. Bashful. 9701. Backside, backset. 9703. Buxom. 9704. Boxer. 9711. Bigoted. 9714. Back-door, bigotry, picture. 9715. Pig-tail, pocket-hole. 9724. Pecuniary. 9727. Picknick. 9732. Bookman.

9740. Pack-horse. 9741. Bug-wort, hypocrite, epicurean, beak-iron. 9743. Back-room, buckram. 9745. Pickerel. 9746. Bog-rush. 9754. Peculiar, piacular. 9785. Bookful. 9791. Backbite. 9792. Back-bone. 9794. Bug-bear. 9799. Bag-pipe. 9814. Beef-eater. 9824. Buffoonery. 9841. Poverty, beavered. 9846. Beverage. 9858. Bivalve. 9865. Peevishly. 9901. Papist. 9910. Baptize. 9913. Popedom. 9915. Bobtail. 9941. Bee-bread. 9954. Popular. 9957. Public. 9969. Babyship. 9972. Popgun.

It is not the mere recollection of the figures represented by words as illustrated in this chapter, that gives strength to the memory: but the association of one class of words with another, by which names and subjects are called up, and homophonous words are selected by which numbers and dates are fixed in the memory, so as not to be easily forgotten.

This is especially illustrated in the following chapter.

CHAPTER IX.

POPULATION OF THE PRINCIPAL CITIES OF THE UNITED STATES.

This is taken from Rand, McNally & Co.'s pocket cyclopœdia. It may not represent the present number of the population of these different cities, but it will illustrate how easily figures or numbers can be permanently impressed on the memory by words with homophonous sounds, to which are linked the words that represent the numbers. Every effort in this direction will strengthen the memory. To remember one thing by its similarity in sound to some other object, is the best exercise we can engage in to restore a feeble and too often neglected memory.

These formulas representing numbers may often appear ridiculous and far fetched; yet this may serve to impress them more forcibly upon the memory. It is memory and not elegance of diction we are after.

By carefully studying the following illustrations of this system, any one can soon form the habit of constructing formulas by which to call up things that are always liable to slip from the memory. We aim to make this so plain that the most ordinary capacity can understand and profit by it.

Albany, N. Y. 90,758.
All bony hands would not look well in a
Boss glove.
90,758

Allegheny, Pa. 78,682.
All gains are not found in
Calfish fun.
786,82

Atlanta, Ga. 37,409.
Atlantern light we could not do fine work but night
Make a rasp.
37,409

Auburn, N. Y. 21,924.
All burn gas where there is
One tap owner.
21,924

Augusta, Ga. 21,891.
A gust of wind may carry off a
Neat fop hat.
21,891

Baltimore, Md. 332,313.
A bold temer would not be frightened if
Mammon met him.
332,313

Bay City, Mich. 20,693.
A Bay near a city makes a good harbor for a
Noisy ship home.
20,693

Boston, Mass. 362,839.
Bosting men may make a Machine of a mob.
362,839

Bridgeport, Conn. 27,643.
A Bridge apart would not make a
Neck charm.
27,643

Brooklyn, N. Y. 567,665.
A broken line of thoughts could not make one use
Logic Jewishly.
567,665

Buffalo, 155,134.
A Buff fellow might be more successful than Samson as a
Delilah tamer.
155,134

Cambridge, Mass. 52,669.
A cane bridge might be as unimportant as a poor
Lone Jew shop.
52,669

Camden, N. Y. 41,659.
He came down to get his
Heritage help.
41,659

Charleston, S. C. 49,984.
Charls in town could find nothing like a
Rope paver.
49,984

Chelsea, Mass. 21,782.
For a *Chill so light* it is better the medicine be
Not given.
21,782

Chicago, Ill. 503,185.
Chide as you go she moves majestically like soldiers in a
Wholesome defile.
503,185

Cincinnati, O. 255,139.
Since I noticed your progress I see
No well hole damp.
255,139

Cleveland, Ohio. 160,146.
Cleve to the land like a
Duchess too rich.
160,146

Columbus, Ohio. 51,647.
A *Colum burst* might cause a
Loud shriek.
51,647

Covington. 29,720.
A *Cove in town* might make an
Unhappy gayness.
29,720

Davenport, Iowa. 21,831.
To *Dive in port* may be done by a sailor
Not famed.
21,831

Denver, Col. 75,321.
Done over by rapid growth may soon
Culminate.
75,321

DesMoines, Iowa. 22,408.
Do mine come now or shall I None receive.
22,408

Detroit, Mich. 116,340.
Do it right, for from my bunch of flowers you cannot
Detach my rose.
116,340

Dubuke, Iowa. 22,254.
Do beg him not to send a
Ninny nailor.
22,254

Elizabeth, N. J. 28,229.
A bath in hot water would be like
An oven nap.
282,29

Elmira, N. Y. 20,541.
All miry land would not make a good farm for a
Nice lord.
20,541

Erie, Pa. 27,737.
E're I would starve I would feast on a
Yankee game egg.
27,737

Evansville, Ind. 29,280.
Evan so will some conceited persons act like a
Nobby novice.
29,280

Fall River, Mass. 48,961.
A fall into a river might result from being
Ruff pushed.
48,961

Fort Wayne, Ind. 26,880.
Forty wagons may be sold in
One chief office.
26,880

Galveston, Texas. 22,248.
A galvanic current will affect No one nerve.
22,248

Grand Rapids, Mich. 32,016.
Ground raspberries may be used to make a
Mince dish.
32,016

Harrisburg, Pa. 30,762.
To harrass a burgher without a cause would be like
building a Mouse kitchen.
30,762

Hartford, Conn. 42,015.
A hard ford in a storm would not make
Rains ideal.
42,015

Hoboken, N. J. 30,999.
Hop packing could not be done by a little
Miss Bopeep.
30,999

Holyoke, Mass. 21,915.
A holy yok is the emblem of a laboring good man
who will Not peddle.
21,915

Indianapolis, Ind. 75,056.
Indian apples will keep well under a
Close latch.
75,056

Jersey City, N. J. 120,722.
Cheer a city that has no malaria and needs no
Dens quinine.
120,722

Kansas City, Mo. 75,131.
Kaned sauce is good diet with Cold meat.
75,131

Lancaster, Pa. 25,769.
Long cases may contain Only ketchup.
25,769

Lawrence, Mass. 39,151.
Lawyers have kept many a rogue from a
Hemp toylet.
39,151

Louisville, Ky. 123,758.
Lewis will not leave from fear of an
Atheneum gulf.
123,758

Lowell, Mass. 59,475.
A Low well might be filled All by rock oil.
59,475

Lynn, Mass. 38,274.
Linen pure and white does not indicate
Muffy anger.
38,274

Manchester, N. H. 32,630.
A man chased her and she was less frightened than if she had to Manage a mouse.
32,630

Memphis, Tenn. 33,592.
Many tanners could not convert an ox hide into a
Mummy whale bone.
33,592

Milwaukee, Wis. 115,587.
A mile to walk in the swamps of Florida might bring us to a
Tidal live oak.
115,587

Minneapolis, Minn. 46,887.

Many apples are good, but if too hard and sour they might make an

Arch foe foggy.
46,887

Mobile, Ala. 29,132.

More bills might help and encourage an

Unpaid man.
29,132

Nashville, Tenn. 43,350.

No ashes will make a fire to run

Rum mills.
43,350

Newark, N. J. 136,508.

No ark could hang upon a rock and make the

Damage all safe.
136,508

New Bedford, Mass. 26,815.

A bad ford is of no more value than a toy of an

Inch fiddle.
26,815

New Haven, Conn. 62,882.

A new and good haven for ships would give more joy to sailors than a

Geneva fan.
62,882

New Orleans. 216,909.

No oarlands, but good timber lands can furnish materials for a

Neat ships baugh.
216,909

New Port, Ky. 20,434.
A new pot would not be an interesting subject for a
Nice rhymer.
20,434

New York, N. Y. 1,206,299.
A new cork leg on the richest man in this city would show that the next largest city
Had no such a nabob.
1,206,299

Norfolk, Va. 21,964.
The North fork of any stream could not be dried up with a
Neat pitcher.
21,964

Oakland, Cal. 34,555.
An *Oak tree on the land* is stronger than
Miery low lily.
34,555

Omaha, Neb. 30,516.
An *Old man's hall* might make a
Mouse oldish.
30,516

Oswego, N. Y. 21,116.
As we go to school to learn and
Not to teach.
21,116

Paterson, N. J. 51,031.
Peter's son may come home, and then
Let us meet.
51,031

Peoria, Ill. 29,269.
Pea or rye will make good feed, if there is among it
No bone chip.
29,269

Petersburg, Va. 21,656.
Peter borrowed from his neighbor a
Neat shoe latch.
21,656

Philadelphia, Pa. 817,170.
To fill a dale full of good soil might cause a
Fatigue tax.
817,170

Pittsburg, Pa. 156,389.
A pit full of water near a city might make a
Deluge move up.
156,389

Portland, Me. 33,810.
A *Porter on land* would not want to fall into
Mummy vats.
33,810

Poughkeepsie, N. Y. 20,207.
Poe keeps a garden of flowers from which one might gather a Nice nosegay.
20,207

Providence, R. I. 104,857.
Providing for the future is so important to farmers that one might well Desire a flock.
104,857

Quincy, Ill. 27,274.
J. Quincy Adams was opposed to slavery, and had some anxiety for a Young nigger.
27,274

Reading, Pa. 43,278.
Reading in solitude would be like a
Room in a cave.
43,278

Richmond, Va. 63,600.
A *Rich man* might amuse himself with
Sham chases.
63,600

Rochester, N. Y. 89,364.
A *Roach chaser* is as unprofitable as a
Foppy major.
89,364

Sacramento, Cal. 21,420.
Sacraments are not often given in
Hindo mines.
21,420

St. Joseph, Mo. 32,431.
A *Saint would* go sick rather than take a
Mean remedy.
32,431

St. Louis, Mo. 350,518.
A *Saint would* be to blame if he neglected his
Homeless old wife.
350,518

St. Paul, Minn. 41,472.
St. Paul when shipwrecked, could not his
Road regain.
41,472

Salem, Mass. 27,563.
Sell them well and expect a Yankee eulogium.
27,563

Salt Lake, Utah. 20,764.
Salt in a lake would draw the cattle in spite of a
Nice cashier.
20,764

San Antonio, Tex. 20,550.
St. Anthony reigns quietly in a place that was
Once lawless.
20,550

San Francisco. 233,959.
A frisky saint could not make much paper out of
One mummy pulp.
233,959

Savannah, Ga. 30,709.
A Savan could not come to a wise conclusion from
Mossy gossip.
30,709

Scranton, Pa. 45,850.
Screen a town and protect your flocks and you will have a good
Yearly fleece.
45,850

Somerville, Mass. 21,929.
Some are well in places where they could
Not hob nob.
21,929

Springfield, Ill. 19,742.
A *Spring in a field* would keep things
Top green.
19,742

Springfield, Mass. 33,340.
A *Spring full* of water would not make a
Mummy morose.
33,340

Springfield, Ohio. 20,730.
A high spring might be a place for
Nice games.
20,730

Syracuse, N. Y. 51,792.
Sir, excuse me for leaving my Old cabin.
51,792

Taunton, Mass. 21,213.
A *Ten town* mass meeting singer might sing a
Night anthem.
21,213

Terre Haute, Ind. 26,042.
Tare a hat for a man and he may give you an
Unjoyous run.
26,042

Toledo, Ohio. 50,136.
To lead instead of drive may cause
Less damage.
50,136

Trenton, N. J. 29,910.
To rent one room might give us an
Unhappy bed house.
29,910

Troy, N. Y. 56,747.
Try if you can stop a scream with an
Owlish croak.
56,747

Utica, N. Y. 33,914.
You take a cup of water, it is better than a dry
Mummy powder.
33,914

Washington, D. C. 147,294.
Washing done in the capital of the nation may be done by a

Freaky neighbor.
147,294

Wheeling, W. Va. 30,739.
A *Wheelbarrow* may be used to build a

Mossy camp.
30,739

Wilkesbarre, Pa. 23,470.
Will bare more wood but

No more rocks.
23,470

Wilmington, Del. 42,478.
A town willing to keep good order will

Run a rogue off.
42,478

Worcester, Mass. 58,291.
A War chaser will likely

Love nobody.
58,291

CHAPTER X.

DIFFERENT PERIODS OF DISTINGUISHED PERSONS INDICATED BY HOMOPHONOUS SOUNDS.

Zoroaster B. C. 1000.
A sore toe is not counted among common
Diseases.
1000

Buddha B. C. 500.
A bud in the spring promises to bring back autumnal
Losses.
500

Homer B. C. 850.
At home with his friends the time past and his friendship was not
False.
850

Solon B. C. 638.
So alone he rose upon the darkness of his times like a
Gem wave.
638

Pericles B. C. 454.
A pair of claws would be better to climb a tree than a
Roller.
454

Herodotus, a Greek historian B. C. 484.
A hero in his work; his narrative flows like a
River.
484

Socrates B. C. 499.
So great a moralist uttered truths more weighty than the sound of an Air pipe.
499

Xerxes flourished B. C. 481.
Xexercised his skill to send his army across the water on a Raft.
481.

Plato born B. C. 429.
A plate of potatoes would not interest this philosopher as much as a Rainbow.
429

Aristotle born B. C. 484.
Arise to tell me something of this man who traveled through many lands to gain knowledge like a
Rover.
484

Demosthenes b. B. C. 385.
Dumb as an ass some men would be if it were not for such men from whose lips great truths
May fall.
385

Alexander the Great b. B. C. 356.
All eggs under the grate of a thousand fires would not make a full meal for his
Militia.
356

Hannibal b. B. C. 247.

Hand a bell to a man who wishes to ring out an alarm to save his country from

Anarchy.

247

Cicero b. B. C. 106.

See his row boat showing himself wiser than a common

Wood sage.

106

Pompey b. B. C. 106.

A pompous man with self conceit will not be driven by a Tow switch.

106

Julius Cæsar b. B. C. 100.

A Jew is easier under tyrannical rule without strong Doses.

100

Virgil b. B. C. 70.

For chills go to a doctor, and for quills go to a Goose.

70

Horace b. B. C. 65.

A horse that travels well will make his owner Jolly.

65

Augustus, son of the youngest sister of Julius Cæsar b. B. C. 63.

August is often followed by a calm as delightful as a Gem.

63

Constantine b. A. D. 274.

Constant in his efforts to extend his empire, he kept down his Anger.

274

Mohammed b. A. D. 570.

More ham or pork were rejected by this prophet than could be put into a

Log house.

570

St. Augustus b. A. D. 354.

A saint in August with poor bread might blame the Miller.

354

Charlemagne b. A. D. 742.

Charles managed to support his armies with an abundance of Grain.

742

Alfred the Great b. A. D. 849.

All feared this great warrior from the nobles down to the Ferry boy.

849

William the Conqueror b. A. D. 1027.

Will concord be restored to a distracted nation if the king is wiser than a

Dizzy Yankee.

1027

Richard I. b. A. D. 1157.

A rich bard could sing better in the pure air than under a

Tight hulk.

1157

Dante the poet b. A. D. 1268.
A dainty morsel might suit him better than a
Danish wife.
1268

Christopher Columbus b. A. D. 1436.
A Christian column should not perpetuate the memory of his enemy who proved himself unworthy of such
Dear homage.
1436

Gutenberg first used movable type for printing A D. 1438.
A good bargain in trade is better than a
Dear move.
1438

Joan of Arc b. A. D. 1412.
A joiner's ark was a place where Noah's faith was
Tried in.
1412

Copernicus b. A. D. 1473.
A copper nickel would not help much in a
Dear game.
1473

Raphael b. A. D. 1483.
A raffle for a prize painting of great value might
Terrify him.
1483

Michael Angelo b. A. D. 1474.
Milk and jelly served for dinner to a hungry man might be looked on as Trickery.
1474

Martin Luther b. A. D. 1483.
More tanned leather to write his scroll would have secured a

Deär fame.
1483

Henry the VIII. King of England, b. A. D. 1491.
Eight hens could never raise a brood of chickens if you kept them in a

Tar pot.
1491

John Knox, Scottish reformer b. A. D. 1505.
Join ox teams if you wish to draw a heavy load up a

Woodless hill.
1505

John Calvin b. A. D. 1509.
Call in vain for a deaf

Idols boy.
1509

Galileo b. A. D. 1564.
A Gallilean as wise as this man should sit in a

Tall chair.
1564

Elizabeth, Queen of England, daughter of Henry the VIII. b. A. D. 1533.
Ill is the bath that makes one feel like an

Ideal mummy.
1533

William of Orange b. A. D. 1633.
Will an orange peddler undertake to

Teach a mummy.
1633

Mary, Queen of Scots b. A. D. 1542.
A merry Queen she could not be while confined in prison like an
Idle heroine.
1542

Francis Bacon b. A. D. 1561.
Fried bacon may be relished by a man who wears a
Stylish hat.
1561

Wm. Shakespeare b. A. D. 1564.
Shake a spear at a man who aims to get a
Tall share.
1564

Wm. Harvey, discoverer of the circulation of the blood b. A. D. 1578.
Will harvest bring us grain to feed our
Tall calf.
1578

Oliver Cromwell b. A. D. 1596.
All over cream might resemble a
Dull peach.
1596

John Milton, the poet, b. A. D. 1608.
A mill in town would be a safer place to sleep in than a
Wettish sofa.
1608

John Bunyan b. A. D. 1628.
A bunion on your toe might be relieved by trimming it with a sharp
Dutch knife.
1628

John Locke, philosopher, b. A. D. 1632.
A lock on knowledge could not keep out an inquiring
Dutchman.
1632

Sir Isaac Newton b. A. D. 1642.
A new town hall would make the assemblies of the old
Adjourn.
1642

Wm. Penn b. A. D. 1644.
Will a pen be as good as the sword to
Teach a warrior.
1644

Alexander Pope b. A. D. 1688.
All eggs under a pop gun would not make as much noise as a
Dutch fife.
1688

Emanuel Swedenborg b. A. D. 1688.
A man well in Sweden could not be amused by a
Dutch fife.
1688

Voltaire b. A. D. 1694.
A vulture will tear what comes in his way like a
Hedge bear.
1694

John Wesley, founder of Wesleyan Methodism, b. A. D. 1703.
A Welsh lion might endure much, if we do not too much
Tax him.
1703

Benjamin Franklin b. A. D. 1706.
Be frank on the land if you expect a
Dog siege.
1706

The illustrations in this chapter will show the manner of constructing formulas with homophonous sounds by which words representing figures can be easily called up. All these exercises have an effect on the memory, and their careful study is of great importance to those who have defective memories.

CHAPTER XI.

THE ADVANTAGES OF MENTAL EXERCISE.

The question is frequently asked, "What are the advantages of these exercises by which letters are thrown into figures, and words stand for numbers to any desirable extent?" In answer to this and all such questions, it may be stated that by these associations of letters with figures and similar sounds to call up another subject or word, the memory gains strength to a degree that would scarcely be imagined before a proper trial is made.

The very first effort to acquire a knowledge of the first systematic and most important lesson will give an exercise to the mind or memory that will gradually strengthen this important faculty. The comparison between letters and figures as found on Page 21, will fix the lesson on the memory and at the same time give strength to the memory for further exercise. In conversation with an intelligent lady she complained of the loss of her memory and the embarrassment it was to her. I told her that her memory could easily be strengthened and brought back to its youthful vigor. She appeared to be skeptical, and thought it impossible to restore a lost

memory. I proposed to make a trial, and told her that in one hour she could learn to give the number of every word on Pages 24 and 25 of this book. I directed her at once to the study of the alphabet on Page 21. After spending a few minutes in associating letters with figures, and the homophonous sounds of a combination of letters as explained in the second chapter, especially on Pages 22 and 23, I directed her to the 100 words above referred to, and after a brief explanation including not more than one half an hour, she was able to give the number immediately of every word in the list of 100 words. On another occasion three persons agreed to make the experiment, and under my instruction in a little less than one hour each one could not only give the number in the list of 100 words without a single mistake, but could also tell every number in connection with every word in the VIIth Chapter of this book. They expressed themselves perfectly delighted with the simplicity of the system and the entertainment it afforded to the mind.

There is absolutely no hard study nor severe mental strain required. It affords a pleasant mental recreation.

The question is often asked, "Will it help me to remember names, or to recognize a friend after a first introduction?" To this we answer, "It will." The mere recollection of numbers and dates or historical events, is only a part of the advantages gained by the study of this system. The exercise of the memory in one direction will give it vigor and strength in every

direction. By this we learn to fix the attention on anything we wish to retain. An impression is at once made on the tablet of the memory, and the impression remains as surely and indelibly as the ink upon the paper from the pen or type. Some who have witnessed the marvelous feats of memory displayed by those who have practically tested this system, have concluded that it must necessarily require a tedious course of hard study to become proficient in it. This is not the case. In a few hours one can become fully acquainted with the principles of the system; and in proportion as these principles are applied in exercising the memory, by so much the more will the memory gain strength. The strength of the memory will have a tendency to impart vigor to the entire physical organization. It is the neglect to exercise that enfeebles the noblest faculties of our nature. No wonder persons become restless, sleepless and nervous. Our higher nature is suppressed and buried under the rubbish and care for a mere animal existence, and the bodily appetites are gratified by the luxuries of animal life, while the soul is hungry for higher enjoyments, and the memory is ready to store away our accumulated treasure of intellectual wealth, if we will only make such repairs and arrangements as will give this noble faculty a fair opportunity to act its proper part in the mysterious operations of our complex nature.

There is no department of scientific study in which this system may not be turned to a good account. The minister of the gospel going to a new charge

and among strangers, is very anxious to recollect the members of his charge, and often feels embarrassed because he cannot do so to the extent of his desire. In applying the rules laid down in this work he will find great assistance in this direction. As soon as he hears the name let him associate it with some familiar object, animate or inanimate. Is it Daniels? Let him think of Daniel in the lion's den; for Jones, let him think of Jonah and the whale; for Smith, think of a blacksmith; for Abraham, think of a broiled ham; for Fowler, think of shooting prairie chickens; for Parkhurst, think of pie crust; for Warren, think of war on anything wrong; for Miller, think of flour and bread; for Willing, think of consent; for Burns, think of barns; for Freeman, think of a former slave; for Thomas, think of going *to a mass meeting;* for Stowe, think of *storing* books; for Cranston, think of a *grand stone* in a building; for Bristol, think of a bright star in the stellar world. These illustrations are given to show how objects may be associated with names in almost endless variety, by which names can be called up at pleasure.

Again, the characters of persons and qualities of things may easily be fixed in the memory. Daniel may be a hero or a coward. The whale may take in a small specimen. The smith may have a large shop or a small corner with a tack hammer. A broiled ham may be good or bad. A fowler may shoot large game in great quantities, or only a few snipes. A pie crust may be made of good material and represent a generous nature, or it may be made of stale

flour, rancid lard, bad eggs, over baked, and represent a man of sour disposition, short, crusty and ill-natured. A miller may make good or poor flour. A store may be filled with good books or poor trash. A grand stone may be a grindstone to keep things sharp. By these suggestions you see how one thing may be attached to another, like you attach a label to goods to be readily recognized among thousands of packages. Either by similarity or dissimilarity we can easily learn to remember things.

To recollect faces, when you are introduced to a person, fix your mind upon the features and associate the name with some one you have been acquainted with, and associate the name with some other familiar name or object. The great difficulty arises from a want of especial attention. To look at a person or to hear a name or narrative with comparative indifference is a sure way to forget. For instance: You are introduced to John Smith; you may immediately conclude he does not look like the Smith I saw at such and such a place, or he may look very much like him. In either case the association will enable you to call up the name when you see the person again. We use the name Smith as a familiar name for illustration that will apply to any other name. The want of attention and association makes a defective memory, while especial attention and the association of one thing with another improves the memory.

CHAPTER XII.

DISTANCE BY WATER FROM NEW YORK TO FOREIGN PORTS.

Alexandria, Egypt, 5,095.
All eggs from the country of the Nile would make a
Loose pile.
5,095

Amsterdam, Holland, 3,530.
A master dam across a stream could not keep away
A mill mouse.
3,530

Bermudas, West Indies, 680.
Burn meadows among savages and you will scare
the Chiefs.
680

Bombay, India, 11,555.
Boom away with your bomb shells and show your-
self Totally loyal.
11,555

Bordeaux, France, 3,334.
Burdocks have burrs that stick to any clothes accord-
ing to the best of My memory.
3,334

Brussels, Belgium, 3,418.

Bruise eels to death and you stop then forever from having a Merry dive.

3,418

Cape of Good Hope, Africa, 6,840.

Keep in good hopes, and from all the flowers you look for, you may find the Chief rose.

6,840

Cape Horn, South America, 7,000.

A cap on a horn would be as singular as a cap on a tail, and both would be insufficient to warm a Case icy.

7,000

Constantinople, Turkey, 5,154.

A constant trader in staple goods should not be a Low dealer.

5,154

Copenhagen, Denmark, 3,650.

To cope with hunger would not be so bad if we were not Mushless.

3,650

Calcutta, India, 12,510.

Cold cats will freeze if you put them in a cold Wooden lighthouse.

12,510

Canton, China, 14,105.

Can towns be made to prosper where merchandise have a Tardy sale.

14,105

Gibraltar, Spain, 3,290.
A gib and not a halter will suit the runaway sailor when he sees a Man pass.
3,290

Glasgow, Scotland, 2,934.
A glass blower steady at his work is No bummer.
2,934

Halifax, Nova Scotia, 563.
A hill fox will escape from the hounds unless you get near enough to Lash him.
563

Havana, Cuba, 1,275.
Have any of your threads been found in a Tangle.
1,275

Lima, Peru, 11,312.
Limar beans would make a nice dish for a Tidy maiden.
11,312

Lisbon, Portugal, 3,184.
Lizzie's bonnet did not suit her and it had to be Made over.
3,184

London, England, 3,376.
Alone down in a hovel in this great city might make a Home mawkish.
3,376

Liverpool, England, 3,080.
To live and pull through danger May save us.
3,080

Madras, British India, 11,840.
Meadow grass in swamps would not make a
Tide furious.
11,840

Naples, Italy, 4,327.
No apples for an Italian fruit peddler would make him as stubborn as an old Roman neck.
4,327

Pekin, China, 15,325.
A pecking hen might scare a little Chinaman, but not an American Tall manly.
15,325

St. John, Newfoundland, 785.
St. John found land enough to travel over, but in his race was a
Weak fellow.
785

St. Petersburg, Russia, 4,432.
St. Peter does not want a follower of his teaching to be a
Rear man.
4,432

Sandwich Islands, 7,150.
The sand which is scorched by the burning sun makes the air so hot that a man can go
Coatless.
7,150

San Francisco, California, 18,843.
Send Frank's sister to the man on a
Tough farm.
18,843

Shanghai, China, 14,510.
High shanks could not be exchanged for

Dear lots.
14,510

Stockholm, Sweden, 4,075.
A stocking with a hole does not make the wearer a

Rascal.
4,075

Valparaiso, Chili, 4,813.
A valiant prisoner on the wrong side of a question could not

Refute me.
4,813

Vera Cruz, Mexico, 2,185.
Very curious that this old city is

Not full.
2,185

Vienna, Austria, 4,095.
Why any people should be hungry if they can find a large

Rice pile.
4,095

Yokohama, Japan, 7,523.
You come home from heathen lands and you may have a

Clean home.
7,523

Reading these formulas over a few times so as to recollect the distance of each place named in the above list. This affords a pleasant and amusing exercise for the student in mental gymnastics.

CHAPTER XIII.

MISCELLANEOUS HOMOPHONOUS FORMULAS, GIVING NUMBERS.

INTERESTING BIBLE FACTS.

The Bible contains 3,566,480 letters.
By a bill we might secure a
Militia watcher office.
3,566,480

It contains 773,765 words.
The word is
Go, come casually.
773,765

It contains 31,173 verses.
Far sees the hunter who expects
Immediate game.
31,173

It contains 1,139 chapters.
The chap tears his hands if he attempts to scrub
Without a mop.
1,139

"And" occurs 46,277 times.
Andrew was not in haste when he made his
Irish nag walk.
46,277

"Lord" occurs 1,855 times.
The Lord demands our
Youthful will.
1,855

LENGTH OF SOME OF THE PRINCIPAL RIVERS OF THE WORLD.

Rhine, in Europe, 960 miles.
Rye in leaky vessels will run out unless you put on
Patches.
960

Colorado, N. A., 1,060 miles.
Collar a doe and her mate may give you a
Dizzy chase.
1,060

Columbia, N. A., 1,200 miles.
Column by column would be useless if made like a
Wooden ice house.
1,200

Don, Europe, 1,300 miles.
Done and finished. It bears its freight like
Tame asses.
1,300

Amur, Asia, 1,500 miles.
A mere river is of more importance to commerce than a
Tall Swiss.
1,500

Red River, N. A., 1,600 miles.
A red rover, like an Indian, would eat his game and never look for
Dish sauce.
1,600

Danube, Europe, 1,725 miles.
Dan, you be careful with your bare feet; you might tramp on a

Tack nail.
1,725

Rio Grande, N. A., 1,800 miles.
Rye or grain of any kind might make the speculator appear to have

Two faces.
1,800

Arkansas, N. A., 2,000.
Are kanes when young and tender good to eat with

Wine sauces.
2,000

St. Lawrence, N. A., 2,200.
Low rents for saints and you will hear

No noises.
2,200

Mackenzie, N. A., 2,300 miles.
Mike can see many dears along this river, but

No misses.
2,300

Congo, Africa, 2,400 miles.
You can go and join the great Bishop Taylor, but in that far-off land you may find

No roses.
2,400

Niger, Africa, 3,000 miles.
A *nigro* might sail down this river and turn his craft to

Misuses.
3,000

Missouri, N. A., 3,000 miles.
Misery often follows Misuses.
3,000

Amazon, S. A., 3,750 miles.
Amazing, said the tippler to his friend, you have taken My glass.
3,750

Mississippi, N. A., 3,160 miles.
Miss is sipping your broth and leaves you nothing but Meat ashes.
3,160

Nile, Africa, 5,100 miles.
No ill can come to one who has remedy for All diseases.
5,100

COMPARATIVE POPULATION OF THE PRINCIPAL COUNTRIES OF THE WORLD.

Austria, Hungary, 37,741,434.
An oyster hungry man might Make a krout rhyme1.
37,741,434

France, 46,922,048.
Frank, if you have fears, keep your War ship in nice reef.
46,922,048

German Empire, 45,234,061.
Cheer a man who has arisen so high that he can Rule no more as shoddy.
45,234,061

United States, 50,155,783.
A *statesman* meeting his foe would
Always ideally cuff him.
50,155,783

Empire of Russia, 100,372,560.
Rush in and ask the Emperor's chief man if he
Does his home canal choose.
100,372,560

Empire of Great Britain, 253,521,755.
A *great bright one* is the queen whose empire has
No lame land galley law.
253,521,755

Chinese Empire, 434,600,000.
China ware is used by all nations where
Rumor chooses essays.
434,600,000

COMPARATIVE HEIGHT OF SOME OF THE PRINCIPAL SPIRES IN THE WORLD.

Cathedral of Cologne, Germany, 511 feet.
Catharine called on her friends on
Lady day.
511

St. Stephen's, Vienna, Austria, 470 feet.
Send Stephen away in to oversee the
Workhouse.
470

Strasburg, Germany, 468 feet.
Strawberries are a choice fruit, but for a lawyer would not be a Rich fee.
468

St. Peter's, at Rome, 448 feet.
Send Peter to the top of this steeple when the air is so light you need want it to Rarefy.
448

Notre Dame, Antwerp, Belgium, 442 feet.
Not to me *nor to them*, but to the old hero that is War worn.
442

St. Paul's, London, England, 365 feet.
Send Paul up in a London fog and you might give Him a chill.
365

Hotle de Ville, Brussels, Belgium, 364 feet.
A *hotel in a village* may be kept by a Major.
364

Trinity church, N. Y., United States, 284 feet.
Try on a tie of silk, for we have No fur.
284

NUMBERS OF THE DIFFERENT CREEDS OF THE WORLD.

As it is difficult to form words to represent so many ciphers as are required to express millions, the letter M is added to indicate million and to aid the memory.

Parsees, principally in Asia, 1,000,000.
Far sees the man who looks into the sky without a Hat.
1 M.

Jews, 7 M.
A Jew is as well satisfied under his own vine and fig tree as under an

Oak.
7 M.

Brahminical Hindoos, 120 M.
Broom in a cell. The want of it I Witness.
120 M.

Mohammedans, 122 M.
More home maidens might tell what room to

Dine in.
122 M.

Aboriginal tribes, 227 M.
An arbor in general is much better than

No awning.
227 M.

Christians, 388 M.
A *Christian* once established in his faith will not often

Move off.
388 M.

Buddhists, Shintos, and followers of Confucius, 482 M.
Buds shine before they open into bloom if not nipped by a

Raven.
482 M.

The foregoing illustrations will enable the student of this system to construct formulas by which dates and numbers may easily be fixed in the memory.

CHAPTER XIV.

THE LATCH-STRING TO MEMORY'S STOREHOUSE.

"You will find the latch-strings out at my house," was a common expression among the early settlers of this country who lived in log cabins, and the only fastening they had to their doors was a latch inside, to which a string was fastened, and a small hole in the door through which the string was passed to the outside. A pull at the string would lift the latch and open the door, and drawing the string to the inside was equivalent to bolting the door. The expression, "You will find the latch-string out," was the same as saying, "You can come into my house whenever you see proper to do so." Now we invite you to pull the latch-string of memory's storehouse, and walk in and see the beautiful arrangement this storekeeper has, to put everything in its proper place, and how readily everything can be found and recognized as the very identical thing you have been looking for. The process by which you find the string, and open the door is so simple and easy, that any one can do it. Some have been frightened from studying these memory lessons, under the impression that it required some terrible effort of the mind, similar to solving some great mathematical problem, so that instead of mak-

ing the effort, they have turned away with the idea that they could never comprehend the mysterious problem. Now we will endeavor to convince you that there is nothing mysterious or difficult about it.

It is as simple as the alphabetical arrangement of letter boxes in a postoffice, or as going into a well-regulated house, where the lady of the house can point to every piece of furniture, every picture on the wall, and call them all by name; or find every article of clothing, and everything in its proper place in the kitchen and cooking department.

Surely this does not require hard study, but simply a system of orderly arrangement which soon becomes a pleasure instead of a burdensome task.

It is the office of the memory to keep a place for everything and everything in its proper place, so marked on the tablet of the memory as to designate it by its name or its nature at any time.

This system of memory culture does not propose to enable any one by some magic or mysterious bound, immediately to pass from a defective memory to a good memory. This would be unreasonable. We only propose to give rules for the improvement of the memory which, if carefully followed, will certainly lead to this desirable result.

Some have evidently procured the first edition of this book—MENTAL GYMNASTICS—under the mistaken idea that they would only have to read the book through and immediately find themselves in the possession of a good memory.

The following extracts from letters received on this

subject show how erroneous the views of some are in reference to this matter. A minister of the Gospel, who had the first edition, writes: "I have read your book through, and do not see that I can recollect my sermons or lectures any better now than I could before I read the book."

An attorney at law writes: "I thought by reading your book I would find the secret of retaining in my memory everything pertaining to my profession; but my memory is no better now than it was before I read the book."

These are specimens of numerous letters received on this subject from those who had the first edition.

The object is to give plain directions for the gradual and successful training of the memory, and to strengthen it by such a process of exercise as not to become wearisome nor exhausting to the mental faculties.

In the act of calling up one thing by comparing it with some other and more familiar thing, we strengthen this noble and too often neglected faculty of the human soul.

Persons have frequently told me that they could not recollect anything, and these same persons on a single trial, in a few minutes, would commit to memory the alphabetical arrangement of letters representing figures on page 21. If we can only get our ideas down to the extreme simplicity of the process, we find an easy task before us. When I commence with my pupils, I tell them that they can certainly recollect that 0, or cipher, represents zero, and when standing

alone represents nothing; and when it is added to the figure 1 it makes 10, and so on through all the figures from 1 to 9.

The sound of z or s always represents 0. The small printed t certainly looks like the figure 1. Now this you cannot forget. The small printed n has two strokes, and this represents the figure 2. Now here the memory retains the comparison, t, 1, n, 2. Again, the letter m has three strokes, and represents 3. The r is the last letter of the word four, and always represents the figure 4. Now repeat this over a few times and you have it completely fixed in the memory.

Then proceed to the letter l. This, in the Roman numeration represents 50, but you leave off the 0, and you have 5. Now repeat a number of times over, l for 5, and you will soon have it fixed in your memory to remain. Next take the letter j, and if this is reversed, we have a resemblance to the figure 6. Now repeat it in the same way.

The k when turned upside down resembles the figure 7, and it also looks like a key when upside down. Here you have a picture of the figure 7.

The figure 8 looks like an elongated written f, and therefore f represents 8. The p reversed resembles the figure 9, and therefore always represents 9.

Now turn to pages 22 and 23 and read and study carefully what is said there in reference to phonetic sounds.

These rules being understood it will be an easy matter to give the numbers of every word on pages 24 and 25.

Remember the vowels and the letters, h, w and y have no numerical value.

The student will now be prepared to give the numbers standing before the words in Chapters VII. and VIII. When these are well understood, then the formulas in the different chapters may be studied, and the learner will soon be able to construct forms of words and sentences so as to represent numbers, and this habit once formed will enable one to retain any desirable number of figures in the memory.

The question is frequently asked, "What is the advantage of all this process of fixing numbers and figures in the memory?" To this we reply: When memory is strengthened in one direction, it gains equal strength in every direction. If you ask the invalid with feeble limbs and debilitated muscles why he engages in physical gymnastics, he will tell you that this gives him strength to labor at anything he may wish to undertake. Exercise, if not too violent and exhausting, gives strength to body and mind. But this exercise must be well and carefully directed, and especially so in mental processes. A confusion of ideas may crowd the mind, and without a systematic arrangement to store away everything in its proper place, the result would be similar to throwing all kinds of goods and wares into one common pile where everything would be in confusion and nothing could be found, only as a mere matter of accident or chance. It is this confusion of our thoughts; this want of a proper classification that has such an injurious effect upon our physical nature in advanced years

that brings on premature decay, and contributes much toward increasing the infirmities of old age.

Keep the latch-string of your memory's storehouse out. Invite deposits from every direction; mark and label these deposits. Place them so that you can find them at a moment's notice. The vigor of your memory will add vigor to your physical manhood and womanhood. It will help to smooth the wrinkles of the furrowed brow and drive away the gloomy forebodings that often hang like a spectral cloud over the horizon of our vision as we are advancing in years.

I have myself received incalculable benefits from this memory culture, and that which I have realized in my own case, may be obtained by others. It is, however, difficult to make some people understand that this, as all other mental improvements, is a matter of gradual growth. The law of association by which we call to mind some things by their similarity to other things may be so studied and practiced that almost anything can be remembered by an association with some similar thing. See Chapter XI., page 80. Carefully study this chapter.

Some of the letters received from persons who have purchased the book plainly indicate that they have not read the instructions it contains. Perhaps after reading a few pages they concluded that by some magical process their memory should at once be capable of retaining the contents of a sermon or a lecture.

The following letter is one among many of a

similar kind showing how little attention is given to the plain rules laid down for the gradual improvement of the memory. The writer says: "I purchased one of your books on MENTAL GYMNASTICS. I do not seem to comprehend it. I cannot see how by taking the words and figures I can remember a sermon or a lecture, or remember what I read. I cannot see what connection there is in '*Somerville*, Mass., 21,929 and *some are well*, in places where they could not hob nob 21,929.' "

Now if the person asking the above question, had read the remarks at the commencement of Chapter IX., page 57, he would have seen that these formulas are given to exercise the memory to give it strength, not only by the law of association, but by homophonetic sounds as well.

For instance, we wish to recollect the number of inhabitants in the town of Somerville, Mass. We look for some word or phrase that sounds like Somerville; and we write "*some are well.*" Now is there not a sufficient similarity between *Somerville* and *some are well* so that when you hear one you can call up the other, and the effort to do so gives a good exercise to the memory. To recollect the number of inhabitants you select a sentence to which you can attach a word that gives you the number without the chance of a mistake. Hence the phrase *some are well*, in places where they could not hob nob.

Now the words *not hob nob* gives the number 21,929. An effort to commit these phrases to memory will gradually strength the memory and enlarge its capacity in every direction.

Again, some of my correspondents have asked how to memorize the numbers of the lines in *The Cataract of Lodore*, page 32.

This is easily done by the law of association. The following is an illustration in connection with the 100 words and numbers on page 24 and 25 to number 70:

1. Hat, a fine silk hat sparkles—
2. Honey lies darkling in the beehive.
3. Home chimney smoking—at home.
4. Hero causes tumult in war.
5. Hill hastens down from the hill, along—
6. Hush your striking and raging—
7. Hack will carry you from the waging war.
8. Hoof of the horse among caverns and rocks.
9. Hip and this makes him leap.
10. Woods, you may sink or creep through wood.
11. Tide swelling tide will fling things.
12. Tin cans are used for showering plants.
13. Tame things will not run back in eddies.
14. Deer a deer may be sporting and frisky.
15. A dale among hills may turn and twist.
16. Dish, a dish of fruit may turn and twist, pass around and around.
17. Deck, on deck of a war ship there will be collecting.
18. Dove may rebound from its fall when shot.
19. Top. The smiting and fighting man on top.
20. News if good is what we delight in.
21. Want of things are confounding and astounding.
22. None need be dizzy if at a distance.

23. Name a man *Read* and give him *speed.*

24. Near danger is *shocking.*

25. *Nail* keep things from *parting.*

26. Inch of thread cannot spread—

27. Ink and pen may cause a hissing.

28. Knife cut into a cup of water causes dripping.

29. A nap may be brightening to the sleepy.

30. A mouse wet may be quivering and shivering.

31. A mouth cannot be used for hitting and splitting.

32. A man should not seek to be shine nor twining.

33. A mummy may rattle but cannot be battling.

34. Merry men are neither shaking nor quaking.

35. Mill will run by water pouring and roaring.

36. Match-making requires neither waving nor raving.

37. Make a tossing at the crossing.

38. Move the flowing keep the growing.

39. Map-makers are often running and stunning.

40. Horse in a hurry but not scurrilous.

41. A road is not glittering or flattering.

42. Rain from gathering and feathering clouds.

43. Room for dinning and spinning.

44. A warrior may be foaming and roaming.

45. A railway be dropping and a frog hopping.

46. An Irishman at work may give a jerk.

47. A rock may be heaving before cleaving.

48. A roof is not a suitable place when thundering.

49. A harp may send a little fellow sprawling.

50. A lass may go driving—
51. A lady sprinkling—
52. A lawn may have sounding boards.
53. An elm tree near which a spring is bubbling.
54. A lawyer may be diving into matters—
55. A lily in the pond may make men grumble—
56. A lash may make a clattering—
57. An elk with smooth hours may be gleaning—
58. A loaf may make the hungry go rushing—
59. A leap may cause flapping—
60. A cheese is made round by whirling—
61. Shoot before heating and retreating—
62. A chain may cause delaying—
63. A gem may cause advancing—
64. A cherry cannot recoil nor turmoil—
65. Jelly comes down thumping—
66. Shash or sash is worn by a dashing fellow—
67. Cheek, no ending to cheeky men—
68. Chaff blown from a windmill sounds and motions.
69. Ship, ships in the harbor make an uproar.
70. A kiss does not come down in this way, but gently and quietly.

Here the learner will find the numerical words from 1 to 70 as they are arranged on pages 24 and 25, and corresponding with these are some words from the lines opposite the numbers which will enable any one to find the lines belonging to the different numbers. A little patient and persevering study will make this exercise plain and interesting. All we want is the word that serves as a latch-string to open

the door and lead us to the information we want on any subject. The lessons here given are not mere theories without demonstration; but these rules have been carefully applied and practiced by the writer who can repeat every figure, number, and date of events in this book on hearing the formulas, and on hearing the word in Chapter VII. and VIII. will give every number correctly included in those ten pages. In this statement there is no exaggeration or mistake.

Any one of ordinary capacity and intelligence, by a little application in leisure moments will be able to do the same thing by following the plain directions laid down in this book.

CHAPTER XV.

FINAL DIRECTIONS FOR STUDYING MENTAL GYMNASTICS.

After having become perfectly familiar with the alphabetical arrangement of the letters giving numbers and the numerical value of letters having similar articulations as explained on pages 22 and 23, it will be an easy matter and a pleasant task to form phrases commencing with a word that has a sound similar to the object you wish to remember, and close with the numerical word. For illustration see Chapters XII. and XIII. The numerical word is always placed at the end of the sentence or phrase, and standing alone and below the line of the foregoing.

If I were to write a large volume I could not make the instructions plainer and more readily understood.

The student of this system of memory culture must banish from his mind the idea that there is something mysterious or difficult of comprehension about this. It is a plain, simple process of strengthening this noble faculty of our higher manhood. The only difficulty in the way of success is a too hasty glance over the work, and an equally hasty conclusion that it is above the comprehension of common minds. Study one thing after another, and do not

attempt to comprehend the whole subject at a mere glance.

With the first effort in the lesson on page 21, you will find your memory gradually gaining strength, and as you progress you will wake up to a new vigor of mind and body.

It is this unnecessary yielding to the idea that because we are advancing in years we must necessarily break down, and wither in body and mind. Confidence in our ability to rise, in a good degree, over the wasting influences of time will give us new strength, and have a tendency to prolong our earthly existence.

We do not claim to have found the secret of perpetual youth, but we do claim, most emphatically, to have discovered a mental process, which if adopted and followed out according to these instructions, will add years full of comfort and enjoyment to our earthly existence.

Objections are frequently urged by those who have not carefully studied the subject. We are sometimes told that it is as difficult to remember these formulas and rules as to remember anything without them.

To this we reply, That the law of association, or of comparing one thing with another, or calling to mind one thing by recollecting something that resembles it in sound or form, will give strength to the memory and will so impress it that it is not easily forgotten. See illustration on page 44.

TESTIMONIALS.

The following testimonials will show how this work has been appreciated by those who are competent to judge on this subject:

MENTAL GYMNASTICS; or Lessons on Memory. By Adam Miller, M. D., author of "Life in Other Worlds," "Plain Talk to the Sick," "Mistakes of Doctors," "Laconography," etc. Price, $1.00

As the title implies, this book is designed to suggest and illustrate methods by which what the author justly calls "the noble faculty of memory" may be strengthened and improved in its processes. The system is of such a nature as not to be understood from any such brief account of it as we can give here. Dr. Miller will forward his book by mail to any person sending him the price, and accompany it with written instructions, which furnish a guide in its use. The system employed avails itself of that power of associating ideas which is one of those properties of the mind of which every one must be more or less conscious To what extent this can be used as a discipline and help to the memory, we ourselves have learned, somewhat, by experience. Dr. Miller is one of those men who take delight in bringing recondite things to the surface, and in making obscure things plain. Whatever of success he achieves in his present undertaking to that end and in giving help and stimulus to memory *where* it needs discipline, will be a real benefit to those who may enjoy his instructions.—*The Standard.*

Dr. Adam Miller, a well-known and venerable member of the medical profession in this city, has just published a little work entitled 'Mental Gymnastics, or Lessons on Memory" He does not claim to have originated an entirely new system of mnemonics, but does claim to have simplified some of the old and complex systems, and by arranging new and original formulas, to have brought the subject within the comprehension of ordinary minds. The Doctor is himself a convincing witness of the usefulness and value of his system of memory culture, and, though he has passed the 76th milestone in his life's pilgrimage, his memory is much stronger and more reliable than it was in its earlier years—the result, he claims, of the training recommended in the pages of his book. Teachers, and persons of defective memory, will examine Dr. Miller's treatise with interest.—*Chicago Evening Journal.*

MENTAL GYMNASTICS.—By Adam Miller, M. D., Chicago. This is a thin volume of 112 pages, neatly printed and bound. It is a careful study of mnemonics by improved methods, so simple and easy as to be easily understood. The author, an old man, claims to have a memory more to be trusted by training under this system than even while he was young. He starts out with the proposition, which is undoubtedly true, that "the memory is more susceptible to improvement by proper exercise and training than the body. It is that which possesses the body and is destined to survive its final dissolution and decay. The dweller in the house is more important than the house, so the mind of man, of which memory is a part, is of more importance than the body in which it dwells."—*Chicago Inter-Ocean.*

The Rev. John O. Foster, pastor of Sheffield avenue M. E. Church, after a lecture was delivered at his church, says: "The audience was much pleased, and said so by a rising vote of commendation. The Doctor has something new and valuable."

The well-known philanthropist, Mrs. Annie Wittenmyer, says: "It was my privilege to hear a lecture by Dr. Adam Miller on Mental Gymnastics, and I was surprised and pleased at his wonderful power in handling numbers under his simple system of mental culture."

MENTAL GYMNASTICS, OR LESSONS ON MEMORY, by Adam Miller, M. D. In 1847 the Doctor, then a very vigorous preacher, visited Boston and preached in a number of our churches with great acceptance. His health failing, for a number of years he has been in the practice of medicine, and is, withal, a diligent and thoughtful student in certain lines of intellectual investigation. He has invented a new grammar of memory—a process of intellectual discipline in the use of certain mnemonics—which he believes will greatly strengthen the memory. In its use, although he is now seventy-seven, he says his memory is better than when a young man, and that he can repeat all the figures of his book, which is something amazing. The volume is a thin quarto, with a series of lessons and an interesting essay upon memory.—*Zion's Herald, Boston, Mass.*

We cordially commend it to all persons of failing memory, as the best book obtainable on that subject.—*Interior.*

"MENTAL GYMNASTICS" is a curious little volume of "lessons on memory," by Dr. Adam Miller, of this city. The author emphasizes briefly the value of a good memory, one which can be trusted, and then sets forth his plan for cultivat-

ing and strengthening the memory by the use of phonetic and homophonetic words for figures, by which dates, numbers, etc., may be readily fixed in the memory, and when certain figures once come to stand for sounds, a combination of figures will stand for a word or a combination of words, etc. The author is correct in holding that "the cultivation of the memory can only be accompliished by a systematic effort on a well-defined course of instruction," etc., and when one has succeeded in fixing in memory the principles and methods of the author's system, he will have made an important advance in that cultivation. The whole system is founded on the law of association, and hence is logically based, since association lies at the bottom of the whole process of remembering, whether consciously or not. The author's method, then, simply aids us in getting control, at will, of the agencies unconsciously employed in acts of what may be called spontaneous recollection. It is a system at once ingenious and simple.—*Chicago Times.*

MENTAL GYMNASTICS, or Lessons on Memory. By Adam Miller, M. D. Many and various have been the methods devised for strengthening and aiding the faculty of memory. This work of Dr Miller's is the latest, and certainly one of the most ingenious. To those having a natural mental bent toward association of ideas, it will undoubtedly be congenial and helpful, for the system therein set forth is based almost entirely on the law of association, and on this foundation is built up into a veritable *memoria technica*, or artificial memory.—*Living Church, Chicago.*

"MENTAL GYMNASTICS," by Adam Miller, M. D., is a little manual which develops a system of mnemonics. It aims to dispense with a memorandum book by using instead "the tablet of the heart." By connecting the objects to be remembered with numbers, in a most ingenious and elaborate fashion, it enables any one who familiarizes himself with the system, to carry an immense mass of digested information, ready for production on demand. By experiment we have tested the author's mnemonic resources and been moved by them to wonder.—*Advance, Chicago.*

We could multiply these favorable notices from the different papers to an indefinite extent, to prove the importance of memory culture. But all theories should be judged by their results more than by the laudations of men.

A mechanical contrivance that accomplishes the work for which it is made, is pronounced good and valuable. A system of mental training is valued in proportion as it proves itself superior to other systems. No matter how plausible any system may be in theory, if, upon a fair trial, it does not prove itself successful, it cannot expect public favor and patronage. We should be willing to put any new theory to the test of fairly-conducted experiment, and determine its value by its results. With this view, we bring before the public this newly-arranged system of memory culture, under the appropriate name of "Mental Gymnastics."

The benefits resulting from exercising the mind on the problems laid down in this work, are by no means confined to the mere fact of having committed to memory a number of words and figures to an almost incredible extent: but the mental training received by the process here recommended, will so strengthen the memory in a general way as to make it more reliable in any department of literature. I have frequently been asked this question: "What good will it do me if I commit to memory everything in your book?" To such question I reply, that the principles there laid down will be to the memory what food is to the body. The process of associating one object with another gives activity to the mind, and becomes an agreeable exercise, without the severe mental strain in solving mathematical problems.

In conversation with some friends, to whom I explained the simplicity of the process of fixing numbers in the memory, I

told them I could easily retain in my memory the two problems of the chess board. The first was to move the knight of the chess board over the sixty-four squares without going twice into the same square, which would take the following numbers: 1, 11, 5, 15, 32, 47, 64, 54, 60, 50, 35, 41, 26, 9, 3, 13, 7, 24, 39, 56, 62, 45, 30, 20, 37, 22, 28, 38, 21, 36, 19, 25, 10, 4, 14, 8, 23, 40, 55, 61, 51, 57, 42, 59, 53, 63, 48, 31, 16, 6, 12, 2, 17, 34, 49, 43, 58, 52, 46, 29, 44, 27, 33, 18, 1. The second problem of the chess board is to multiply a grain of wheat, or geometrically doubling it upon itself from the first square of the chess board down to the sixty-fourth square, giving in grains 33,893,487,503,174,010,930. Grains in one pound of good wheat, 13,184; in one bushel, 791,040; in one ton, 26,368,000. Dividing the whole number of grains by these different proportions, we have in pounds 2,570,804,573,966,475; in bushels, 42,846,742,899,441; in tons, 1,285,402,286,983, which would load as many canal boats at forty-two tons to each boat as 32,135,057,174; or as many ships at three hundred tons to each vessel as 428,467,289; which would make as many loaves of bread at one pound each as 2,570,804,573,966,475; which would feed the inhabitants of the globe, allowing the number to be 1,000,000,000, at one pound per day, for 7,043 years and 209 days.

I have written the above calculations from memory, and by comparison find them correct. I can teach any one of ordinary intelligence to do the same thing in a few brief lessons, and to commit any desirable number of figures and numbers to memory.

The following are additional testimonials from reliable sources.

Rev. H. W. Bolton, D. D., pastor of the First M. E. Church, Chicago, says:

The undersigned heard Dr. Adam Miller lecture on Mental Gymnastics or the cultivation and improvement of the memory, and was interested to see him answer questions in figures,

dates and historical events, and especially in moving the knight of the chess board the 64 different squares without going twice into the same square, himself knowing nothing about chess playing, it was an effort of memory cultivated and improved according to his method.

REV. H. W. BOLTON.

The wife of Rev. Dr. Bolton says:

I was both entertained and profited by Dr. Miller's lecture on the improvement of the memory. He proved the efficiency of his system by the wonderful manner in which he could give numbers their proper places, making *no* mistakes.

MRS. H. W. BOLTON.

CHICAGO, March 10, 1887.

This is to certify that I questioned Dr. Miller in reference to figures, dates and events published in his book, with a view of testing his memory, and I found his answers displayed such a marvelous memory that I at once bought one of his books on Mental Gymnastics.

I have known Dr. Miller for over fifteen years, and although he is now 78 years of age, his memory is better to-day than that of most people in the prime of life. I think his system of memory culture would help others in developing a retentive memory.

S. W. PACKARD,
Law Office of S. W. Packard, Borden Block.

We, the undersigned, put Dr. A. Miller to some very severe tests in reference to his marvelous memory in figures, numbers, dates, and historical events. He answered our questions promptly and appears to be master of the problems in his book called "Mental Gymnastics." Dr. Miller claims that these lessons are easily understood, and every step in the progress of studying them will improve and strengthen the memory. He also claims that a careful cultivation of the memory will keep up the vigor and strength of the body, and to a great extent restore the wasting energies incident to old age.

CHAS. C. HAGER,
J. E. HODGES,
With Lord & Thomas, 45 Randolph Street.

Laconography or Geometric Shorthand.

BY ADAM MILLER, M. D.

Testimonials in favor of this system:

Rev. Bishop Fallows, D. D., of the Reformed Episcopal Church, says:

"Although I am not acquainted with the use of any system of shorthand, I have no hesitancy in saying, from what I know of Dr. Adam Miller, as an author and phonographer, and from what I have learned of the success of his method of teaching, that his system of shorthand is worthy the earnest consideration of all interested in the art of Phonography."

"DR. ADAM MILLER—*Dear Sir:*—I have been taking dictated letters since last June—from ten to fifty per day—besides a quantity of other work. I am greatly satisfied with your system of shorthand. I could not have done so well with the old Pitman system. Respectfully yours,

H. BROOKS."

Mr. Brooks took only ten lessons and commenced his work immediately after the close of his lessons.

Rev. Justin A. Smith, D. D., Editor of *The Standard*, says:

"We have known Dr. Miller many years as a man of high intelligence, and of thorough integrity, and of much professional eminence. We have many testimonials to the excellence of his method, enabling beginners in shorthand writing to acquire proficiency in a surprisingly short space of time. Persons interested may confide implicitly in Dr. Miller's representation of the matter."

Sidney Thomas, Esq., President of the Chicago Philosophical Society, says:

"I take pleasure in stating that I am personally acquainted with Dr. Adam Miller; that I have known him as a member of the Philosophical Society, and have frequently met him socially, and I believe him to be a gentleman of unquestioned integrity, and of high honor as a professional man, and a man of letters."

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